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Political ideas of B.G. Tilak: colonialism, self and Hindu nationalism

Oak, A.

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5. History, Modern Indology and Nationalism: Tilak and the Search for Vedic Antiquity

Tilak was deeply interested in the antiquarian debates about Aryan civilization carried out in Europe and India throughout the 19th century. The controversy around the AoC Bill [1891], discussed in the third chapter, compelled Tilak to read large number of Vedic and Dharmaśāstra texts in order to defend his communitarian position on social reform. Simultaneously Tilak embarked upon his scholarly pursuit of Vedic civilization by publishing a book in English titled *The Orion or Researches into the Antiquities of the Vedas* [1893] (Tilak 1999) (hereafter, *Orion*). The short text was followed by a larger exercise in determining the geographical space inhabited by the ancient Aryans few millennia before their entry into the Indian subcontinent. Titled *The Arctic Home in the Vedas, being also a new key to the interpretation of many Vedic texts and legends* [1903] (2008) (hereafter, *The Arctic Home*), Tilak suggested that the earliest members of the Aryan race lived around the Arctic circle and geological changes instigated their migration to the South. Tilak represented a new breed of modern intellectuals eager to delve into ancient Sanskrit texts in order to justify the antiquity of Aryan civilization (Deshpande 2001; Thapar 2007: 1-40).

Tilak's historical writings have been criticized for their racial and innuendos and defence of the Hindu caste-system (Thapar 2008: 65-88). According to Stanley Wolpert, the two texts may have helped in establishing Tilak's presence as a learned Sanskritist amongst the śāstrī community of Maharashtra but proved utterly futile to modern Indology (Wolpert 1989: 63). Tilak's use of Vedic astronomy has been challenged for its pseudo-scientific approach while his texts, according to one scholarly estimate, "[...] in no way revolutionized the way historians view the Vedic period [...]" (Figueira 2015: 132).

Madhav M Deshpande, on the other hand, celebrates Tilak's historical approach for its originality. Tilak's historical devices were dependent "[...] not so much on philology, but on astronomy and geology, and on an ingenious interpretation of Vedic textual materials" (Deshpande 2005: 425). Deshpande does not see any political or social agenda behind writing these texts, but considers them purely a scholarly pursuit which is "[...] particularly remarkable considering how deeply he [Tilak] was involved in the nationalist politics of the day" (Deshpande 2005: 425).

A political vision certainly guided Tilak's writings and the two texts on Vedic antiquity/Aryan civilization are no exception. In this sense Deshpande's attempt at characterizing Tilak's historical pursuits as purely scholarly does not hold much ground. But I also oppose the ultra-nationalist rhetoric bordering on Hindutva-majoritarianism in Tilak's history-texts proposed by Figuera, Thapar and Wolpert. I believe that these scholars have paid scant attention to the larger political processes which were taking shape in the Indian nationalist movement of the last decade of the 19th century as well as to changes in the political outlook of the INC. Under the auspices of the INC Tilak was forcefully demanding 'self-government' for India and his historical texts were meant to corroborate his vision. Claims about Vedic antiquity proved the supposed elasticity and longevity of the Aryan race through the ages.

In this chapter I will focus on two Indological exercises undertaken by Tilak. He believed the 'astronomical method' to be an infallible means to determine and 'scientifically validate' the origin and growth of the Aryan Vedic civilization. Tilak strived to prove that the Vedic-Aryans had developed complex mechanisms for measuring time. Years, months and days were precisely divided and measured by observing changes in the positions of constellations. The entire 'life-world' of the Aryans consisting of the saṅskāras, rituals, customs, festivals and as well as philosophical ideas had developed around astronomical readings. The Dharmaśāstra texts, while codifying the Hindu rituals, were aware of the temporal affectivity of Jyotiṣa-śāstra (astronomy). If one were to read ancient Sanskrit texts keeping the temporal-astronomical aspect in mind, it would nullify all (supposed) literary and theoretical idiosyncrasies and grant Vedic religion its rational foundation. The temporal aspect of Vedic civilization was followed up with an investigation regarding its spatiality. Through his *The Arctic Home* (Tilak 2008) and a small essay on the Chaldean Vedas [1917] (Tilak 1977) Tilak tried to prove the Arctic circle to be the original homeland of the Aryan civilization. Apart from invoking the astronomical method to decipher Vedic texts he also used the 19th century geological discoveries to substantiate his claims.

5.1 Tilak's Indological Researches: Epistemological and Political Considerations

Modern nations were envisioned through linear time in most parts of the modern, colonial and post-colonial world (Allen 2008; Murthy and Schneider 2013). The American War of Independence, Benedict Anderson has argued, coincided with the rise of nationalism in

Europe. European political communities, deriving their ideas from American print capitalism, imagined nationalism in terms of 'linear and secular time' (or a 'homogenous, empty time' in Walter Benjamin's phraseology) (Anderson 1983 :24). Thus, European nations as 'imagined communities', shared and moved through a linear secular time while gradually abandoning their pre-modern eschatology and heterodox almanac traditions. Linear time lay at the heart of modern nationalism in the form of clock and modern calendrical (albeit Christian) system which, eventually, spread to other parts of the world.

To challenge European notions of Christian-secular time Indian nationalist thinkers were interested in envisioning competing notions of temporal affectivity. In Bengal, for instance, Purānas were used to grant an historical agency to India in terms of cosmogenic/ pre-modern national space (Chatterjee 1992). However, due their dubious aeonic-cyclical narrative of time and their composition in later antiquity, the Purānas were routinely discredited by European Orientalists. Tilak, instead, used Vedic taxonomy by invoking astronomical data preserved in it. Due to its complex mathematical computations, Tilak believed, Vedic astronomy was not only a reliable source for ascertaining a precise chronology of events but could be scientifically validated. It also helped challenge the dominant Anglicist narrative which argued that Sanskrit knowledge was of infantile nature and hence easily dispensable. Tilak wanted to establish Aryan supremacy on strictly 'scientific ground' by searching for rational validity in Vedic and Dharmaśāstra texts. Vedic astronomy, resting on the margins of academic Indology, easily assimilated within the domains of science (Jñāna) and religion (Dharma). It traditionally possessed dignified status amongst the Śāstrīs. Due to its unstructured nature, it posed no serious challenge to social reformists (Kapila 2010).

In making a case for a Hindu archaic science, Tilak was asserting that "[...] the particular history of scientific Hinduism contained the source of universal history. This search for universality was not reducible to nationalism, for it occurred under religious and philosophical impulses that were not always motivated by the idea of the nation. But the nation came to overshadow the horizon of Hindu universality because it provided the dominant basis for a modern identity" (Prakash 1999: 8). As such, overt nationalist claims are conspicuously absent in Tilak's historical texts. But a nationalist rhetoric is carefully camouflaged by a strong defence of the Aryan Brahmins who had preserved the Vedic textual tradition by memorizing it and handing it over undisturbed for many centuries, a feat "which may appear marvellous to us

at present” (Tilak 2008: 351). Tilak wished the modern world to be grateful to the Hindu priestly class for its “invaluable [...] service” in preserving the ancient knowledge and which proved that the “religious institutions are the hardest to die in any country in the world” (Tilak 2008: 352).

I want to suggest that the historical theories of Tilak had major epistemological and political implications for the Indian nationalist movement. Epistemologically, Tilak countered the Orientalist philological studies of the Vedic literature by reorienting the discourse towards ‘fact-finding’. The emphasis on ‘facts’ produced ‘colonial knowledge’ about the Orient. Therefore, the colonial discourse of early British Orientalism was determined by the methodologies acquired under the rubric of scientific discoveries.

“Orientalism as a body of knowledge drew material sustenance from colonialism but became objectified by the ideology of science as a set of factualized statements about a reality that existed and could be known independent of any subjective, colonizing will” (Ludden 1993: 252). Thus, Orientalism could serve politics as a free-floating discursive apparatus for colonial and nationalist claims. Just as the British Empire could adjust its imperialist motives using ‘scientific discoveries’, the same ‘scientific discoveries’ were reversed by Indians to suit nationalist purposes and claim nationhood. Since an emphasis on ‘facts’ produced ‘colonial knowledge’ about the Orient, Tilak treated the Vedic literature (“[...] the oldest records of the Aryan race”) (Tilak 2008: 4) as historical eye-witness accounts camouflaged in dense Sanskrit vocabulary and literary-mythological imagery. For him, there was nothing mystical or fictive about these myths but a reflection of a distinct textual style used by ancient writers. Thus, the task before a (modern) Vedic interpreter was to sieve facts from myths by using “scientific” tools. Pre-modern Vedic interpreters lacked modern geological and archaeological tools and therefore, ended up paraphrasing (and sometimes distorting) Vedas in order to make them intelligible (Tilak 2008).

Political implications emanating from *Orion* (Tilak 1999) and *The Arctic Home* (Tilak 2008) were strong and deeply inter-connected. *Orion* [1892] attached an extraordinary antiquity to Vedic-Aryan civilization whereas *The Arctic Home* [1903] envisioned an autonomous Sovereign territory, remote and therefore largely forgotten by modern Hindus. The Vedic civilization (traced by Tilak to 10000 BCE and 8000 BCE) predated the Greek, Roman and Mitanni civilizations and thus suggesting that despite experiencing colonial subjugation in

modern times Indian-Aryans were once 'elder brothers' of the European-Aryans. In his enterprise Tilak was following a long lineage of European and Indian intellectuals who imagined Āryavarta as a historically determined spatio-temporal category for India (Leopold 1974). The national space was historically co-terminus with a national territory inhabited by a national people. While British colonial ideologues such as James Mill denied cultural homogeneity, continuity and national subjectivity to Hindus (Majeed 1992), the emerging nationalist response emanated from an "[...] imagined nation within a potentially universalistic framework of an idealized space-time that was understood as outside of and temporally prior to colonial space" (Goswami 2004: 167). If for the earliest Indian modernizers, the West was "[...] a historical necessity and predicament" (Halbfass 1990: 218), Tilak found it imperative to grant the West an inferior status. The presumptions of Social Darwinism had to be reversed.

Tilak's decision to trace the origin of the Aryan-Vedic civilisation (widely considered in his time the oldest first civilization in the world) to the Arctic region is peculiar. I suspect that the choice of the Arctic hypothesis was premised upon two inter-related reasons. First, throughout the 19th century European scholars and thinkers were enchanted by the Arctic Circle, its flora and fauna, resources and its antiquarian past. The polar region represented the limits of human inhabitation and experience. Within the Imperialist-expansionist logic exploring and mapping the Arctic region was a "[...] self-conscious exercise in national masculine identity building perceived to take place in "empty" space [...]" (Hill 2008: 3). Unlike Asia and Africa, the polar region was deemed uninhabited and hence lay outside the moral norms of colonialism. It represented, at once 'emptiness', and the supreme masculinity of British white races who dared to conquer it. By arguing for the Arctic region as the original abode of the Aryan-Hindu race Tilak was pointing towards the failure of the British Empire to capture it. It represented a time and space much before the era of European conquistadors and Western scientific-technological achievements which had overwhelmed the world. Second, through the 'Arctic hypothesis' Tilak presented a unique possibility to the project of modern nationalism by disturbing the temporal affectivity of the birth of modern nation-state.

Finally, Tilak's choice of Vedic literature and the 'astronomy-based hermeneutic' for ascertaining the origins of the Vedic-Aryan civilization fundamentally departed from

Indological exercises much in vogue during the 19th century. Influenced by the late 19th century ideas of Social Darwinism and Positivism Tilak refused to indulge into philology as the principal source of gathering data about archaic cultures⁴³. Instead, he focused on evidentiary sciences such as geology, archaeology and allied disciplines in conjunction with the evidences gathered from the Vedic texts. In a sense, and despite his erroneous inferences, Tilak broke new ground in modern antiquarianism.

5.2 European Aryan race theory and its Reception in Maharashtra: The Pre-Tilak Phase

The early phase of European Orientalism was deeply influenced by philology. As such the Company officials were curious about the ancient culture of India resulting into a long period of, what Thomas Trautmann has called, 'British Indomania' (Trautmann 2004). Influential studies by British Orientalists such as William Jones and Henry Thomas Colebrook 'rediscovered' the ancient Hindu culture through its Sanskrit textual corpus (Rocher and Rocher 2012). The plethora of language studies which was opened up during this period celebrated a common heritage between the Vedic and Biblical peoples. William Jones, for instance, read the flood myth found in ancient Sanskrit Puranic literature reminiscent of the Biblical stories so that the two civilizations (British and Indian) were fraternal, sharing a common homeland and language. "The main thrust of this monogenetic line of thought was that Indians were not essentially different from the British nor significantly inferior" (van der Veer 2006: 137). The idea of ancient fraternal bond between Vedic and British cultures also informed the outlook of few British officials working in India. Mount Stuart Elphinstone, the Bombay Governor, defended Hindus against the scathing criticism levied upon it by James Mill who was suggesting- "Hindus were once in a higher condition, both moral and intellectual, than they are now; and, as even in their present state of depression, they are on a footing of equality with any people out of Europe, it seems to follow that, at one time, they must have attained a state of civilization only surpassed by a few of the most favoured of the nations, either of antiquity [...] or of modern times" (Mill quoted in Bhattacharya 2011: 21).

However, Jones could not place the regional topography where the two races may have co-habited. Thereafter began a two-pronged effort in European Indological studies- to search for

greater resemblances/refractions between the Indic and European language groups and the 'region' where the ancient common civilization may have inhabited. Early European Orientalists had divided world languages into different family groups. Franz Bopp, for instance, in his studies on comparative grammar had identified Zend, Slavonic, Albanian and Armenian as 'Indo-Germanic family of speech'. Throughout the 19th century, Indologists and Comparative linguists had identified seven European language-groups and various Asiatic language-groups, the latter of which, were derived primarily from Sanskrit and were called Indo-European languages. Based upon such studies, the 'original homeland' of Indo-Europeans was speculated upon. Thus, Friedrich Max Müller in his *Lectures on the Science of Language* [1861] believed that ancient 'Ariana' existed in the district around Herat. The 'Central Asia hypothesis' had many takers in the European Indology. Johann Christoph Adelung, for instance, believed that the cradle of human civilization was in Kashmir (which he called a 'Paradise'). With the discovery of Zend and the Avesta texts and its close resemblance to Sanskrit, a common homeland of the Indo-Iranian people was imagined in northern Asia. Thus, J. G. Rhodes, supported by Wilhelm von Schlegel, argued in 1820 that the homeland of the Indo-Iranians was in Bactria. Other scholars believed that the cradle of human civilization was in the highlands of Central Asia (Taylor 1892: 7-13).

The Central Asia hypothesis was slowly rejected from 1860 onwards. New sciences such as craniology, archaeology and linguistic palaeontology disturbed old philological models. The attack on this old model began when scholars started separating the supposedly inseparable relation between 'Aryan blood' and 'Aryan speech'. Johann Gustav Cuno's *Forschungen im Gebiete der alten Völkerkunde* [1871] instituted a Europe-centred exploration of the dawn of human race. In the following year Johannes Schmidt's small pamphlet titled *Die Verwandtschaftsverhältnisse der Indo-germanischen Sprachen* [1872] rejected the 'family-tree theory' (Stammbaum) of the Aryan race and instead called for a model similar to lake with disturbances caused by circles of waves which, when closer to the epicentre appear, separate, but, when farther away they interfere with each other. The primitive Aryans, too, must have lived in northern parts of Europe and with the migration of the tribes caused concentric circles which later interfered leading to mix-match speech patterns. Such studies by European scholars on the 'European' hypothesis found its ultimate expression in a highly influential text

written by Otto Schrader called *Sprachvergleichung und Urgeschichte* [1883]. There were five principal arguments made by Schrader which were as follows:

- a) European languages predate the Sanskrit and the Zend texts.
- b) The dwelling place of the primitive Aryans must have been in northern Europe since most of the known Aryan languages have similar words to denote snow and ice. There are only two seasons mentioned in these languages.
- c) Since the primitive Aryans were nomadic, they must have required vast plateaus or plains to settle. Such large mass of land which can accommodate almost a million of Aryans can be found in northern Europe.
- d) The language-branches of Europe and Asia and especially of Indo-Iranian and Greek show remarkable similarities suggesting a common homeland shared by them.
- e) The oldest Swiss pile dwellings of the Stone Age suggest human habitation long before the development of languages.

Following Schrader's account most of the European scholars abandoned the 'Central Asian' hypothesis as can be seen in a revised edition of Prof. Archibald Henry Sayce's book *Introduction to the Language of Science* [1885] (Taylor 1892: 29-53)⁴⁴. However, an older generation of Indologists continued to believe in the 'Central Asia' hypothesis. Thus, Max Müller argued in his book *Biographies of Words and the Home of Aryans* [1888] that the Aryans dispersed from their original central Asian homeland into two branches. One branch reached Europe and the other approached Iran. The Iranian branch split again and the other half reached north-western India. The invading Aryans suppressed and brought the indigenous dāsyu under their control. The Aryans were of fair complexion, meditative in their orientation and the creators of the Vedic culture. The birth of the Varṇa system was traced by Max Müller in the conquest of the Aryans. Since his *Lectures on the Science of Language* [1861] Max Müller was sceptical about the role that myths play in 'savage' cultures. He believed that the Gods of the ancient world, including Greek, Roman and Indian, were poetical allegories which infected and perpetrated the "disease of language". In his subsequent lectures he pronounced the need to strictly adhere to scientific basis for classifying human languages and cultures (Chidester 2004).

The Indo-European language group or the Indo-German language family, the two conceptions in vogue in 19th century Europe was called 'Aryan' by Max Müller in his *Lectures on the Science of Language* [1861]. Such characterization created a significant polarization in the Indian culture, viz. between the Brahmins as Aryans and all the rest who fell outside the ambit of the Aryan-ness. Peter van der Veer argues that while these oppositions were present for many centuries, Max Müller's scientific rationale sharpened the differences (van der Veer 2006: 138). The criticism levied by scholars like Leon Poliakov (1996) on Max Müller is due to the excessive racial connotation which the term received during Max Müller's own lifetime and the decades that followed. Max Müller is partly to be blamed since he not only used the term to refer to the Indo-European language group but also as a racial signifier. However, there are numerous references in the writings of Max Müller where he categorically stated that, by Aryan, he meant the linguistic category which did not signify a particular race. For instance, in the Preface to *Chips from a German Workshop* [1894] he wrote, "Terms such as Aryan blood or Semitic skulls sound to me still as preposterous as dolichocephalic grammar" (Max Müller 1898: ix).

Max Müller contributed a great deal to the Indological studies of the 19th century. His articles appeared in most of the important European and American journals. His academic work ranged from comparative religion, language, mythology to Eastern and Western religious philosophy. His sympathetic attitude towards the colonized people of India and immense respect towards ancient Indian texts and tradition garnered him respect and admiration from the intellectual circles of India⁴⁵. In fact, references to him as 'mokṣa mullara-bhaṭṭa' in the Marathi writings of this period showcases the revered status which he had achieved amongst the native intellectuals⁴⁶. His critical edition of the Ṛgveda was considered authoritative by the pundits of Maharashtra⁴⁷. The *Sacred Books of the East* series was also held dear by the people of Maharashtra since one its contributors was K. T. Telang (Molendijk 2016)⁴⁸.

Tilak had corresponded with Max Müller and had presented a copy of *Orion* [1892] to him. Upon Max Müller's death (28th October, 1900) Tilak wrote a long obituary in *Kesari* titled 'Prof. Max Müller yāncā mrtyu' (Tilak 1969: 421-428). Tilak informed his readers that the German and French Universities were at the forefront in the early literary excavations into Aryan heritage and that the Sanskrit texts on language and religion had a decisive influence on these scholars. Comparative philology and Comparative Religion were the two important disciplines

which emerged out of these scholarly exercises. With growing interests in the ancient Aryan civilization, the Europeans were losing their condescension towards the supposedly 'distasteful and barbarian' Indians. Max Müller was not only a witness to this gradual shift in European attitudes but also one of its chief interlocutors. Unlike the French and German scholars, whose books were restricted to a small scholarly circle, Max Müller's books written in English were avidly read around the world. According to Tilak, Max Müller's writings possessed "[...] the novelty of thought, beauty of language, lucid and resourceful new line of research and the use of a global language such as English" (Tilak 1969: 425, my translation). Tilak went on to add, "A person like him [Max Müller], fully immersed in the pursuit of the Goddess of Knowledge is a rarity in today's India. But this was not the case earlier. We had a great tradition of learned scholars with an unbroken lineage till the times of Sāyanācārya of the 13th century. Subsequently, the tradition lost its glory and has sadly yet to find its footing once again" (Tilak 1969: 425, my translation). He then pointed out to the liberal outlook which Max Müller held towards people of all religions, nationalities and faith but did not abandon his Christian upbringing. Finally, Tilak was convinced that Max Müller held a deep contempt towards the British colonial government for its exploitation of the 'land of the Aryans'.

The Marathi intellectuals of the late 19th century were not much impressed by the 'European' hypothesis but seemed to have favoured the 'Central Asia' hypothesis. In his *Wilson Philological Lectures Sanskrit and Derived Languages* (1914) delivered at Bombay in 1877 Bhandarkar placed Sanskrit in the Indo-European or 'Aryan' language group along with dialects such as Prakrit, Pali and older versions of North Indian dialects. He also accepted the foreign origin of the Aryan race and argued that it might have close proximity with the Assyrian race (Bhandarkar 1933: 96).

Rajaram-śāstrī Bhagwat, a noted Sanskrit scholar and supporter of the non-Brahmin socio-political movement under the auspices of Satyaśodhaka Samāja, wrote an article titled 'Āmcā deśa āryavartācyā kimwā puṇyabhūmicyā bāher āhe' [1890]. Bhagwat argued that by deśa he meant modern Maharashtra whereas the 'Āryavarta' or Brahmavarta was the region inhabited by the Ārya. The Āryas originally inhabited the region between Driśvati and Sarasvati Rivers and eventually migrated southwards. During these horizontal and vertical movements three castes called Brahmins, Vaishya and Kshatriya evolved while those outside

these three social categories were termed 'anārya' or 'mlecha'. During the Sūtra-period the word 'dāsyu' came to be used to categorize the 'anārya', thus demarcating the territorial limits of the Ārya 'Puṇyabhūmī'. The *Taittereya Samhitā* named the people living near Benares 'Pundrū' and the Andhra dweller as 'dāsyu', while the *Lātyāyana-Sūtra* called the people of Magadha as 'Vrāṭṭya' that is 'anārya'. Thus, the Āryavarta was flanked by the Himalayas in the north, Bihar and Andhra to the east and following the *Manu-smṛti* (which named the people of Avanti as of 'mix-bred') the southern limit was Malwa. The people of Punjab followed 'piśacya-vrata' (ghoulish ceremonies) in ancient times and the people of Kashmir were non-Vedic. Thus, Bhagwat concluded, Maharashtra always remained outside the Āryavarta (Bhagwat 1950). This was an attempt by a śāstrī to supplement the claims made from the non-Brahmin quarters such as by Jotirao Phule (Phule 1991: 109-192; O'Hanlon 2014: 141-151) of Maharashtra of their subjugation by the invading Aryan clans in ancient times.

Marathi Brahmins found Max Müller's thesis much more conducive to their socio-political endeavours, a prominent example of which could be found in the book *The Vicissitudes of Aryan Civilization in India* (1880) by M. M. Kunte. He observed-

"The ancient Aryas, when they invaded India, had made great progress in civilization. They had passed from the condition of mere agriculturalists into that of feudalism. The different tribes had been fused into one community. They possessed such knowledge of agriculture and peaceful arts of life as is discernible in India at the present day. Their knowledge of the art of war and its means would do credit to any nation of Europe during the middle ages [sic.]. Their systems of Cosmology and Theology and Domestic Political Economy [sic.] prove that they were not mere hordes of uneducated barbarians, whom some unknown fatality drove into India" (Kunte 1880: 1-2).

Kunte explained the different phases of pre-history of Aryans (hunting, pastoral, agriculturalist, feudal) by referring to various Vedic sacrificial rituals. He seems to have borrowed the description of human societal evolution from the Scottish Enlightenment and English anthropological discourses. Kunte placed the *Rgveda* as the primary text to understand the history of the Āryavarta (India as a nation) just as Magna Carta was indispensable in studying England's history. Mythologies and astronomical references in the *Rgveda* were of paramount importance in tracing the origin and growth of the Aryan

civilization since, for Kunte, they were the primary depository of ancient wisdom and eye-witness accounts of the Vedic culture.

Kunte believed that the migration of the Aryans from the 'Plateau of Ariana' occurred during the agriculture stage. The internecine tribal warfare was a result of improved resources, a desire for luxury, uncontrolled ambition and jealousy which had grown amongst the inhabitants of Ariana (Kunte 1880: 66). Ariana was inhabited by the Aryas and the 'Mazdayasnians' (Zoroastrians). The pastoralist Mazdayasnians were referred to as 'Asuras' in the *R̥gveda* making Vedic Aryans "reformers" Mazdayasnians "conservatives" (Kunte 1880: 108). The migration took two routes: One tribe called Saalva [or Saalveya] or Schlaav crossed the Caucasus. The other tribe moved beyond the Hellespont and settled into Germany. Thus, much of Europe was settled by the Aryans. Their mode of transport was small boats. Aryas became Haarya and later were called Hellas (from where the term Hellenic must have come about). The German tribes converted the term Haarya into *Her* which later was distorted into the English word (and title) Sir signifying all nobility. Kunte used comparative philology to make such inferences and stated that "[...] the grammatical structure [of two or more languages] is a result of processes working for centuries. Identity of grammatical structure, therefore, points to the identity of ethnological origin" (Kunte 1880: 67-68). Ancient Ariana was flanked by "fertile and romantic valleys of the rivers Jaxartes and Oxus in the north, and the valley of the Tigris in the west and the seven rivers in the east. It bordered on the mountains of Caucasus and the lake of the same name [...]" (Kunte 1880: 91).

Kunte was not satisfied with the disciplines of comparative philology and comparative mythology due to their speculative character. A better science had to be developed to compare ancient civilizations. Since ancient cultures grew around 'religion' and the customary rituals attached to it could provide satisfactory results. He coined the term sphagiology for the study of the science of rituals and explained it thus:

"Sphagiology comes from the Greek word Sphagion- a sacrifice and logos- a description. Sphagion, however, seems to be connected with the Sanskrit word Sphaayana, which means increase as it comes from the root sphai, to augment. The past participle sphita means prosperous. The autumnal increase was originally called Sphaayana [and] secondly, that which was done to mark the sense of obligation with which the increase was welcomed – i.e., sacrifice." (Kunte 1880: 78, note).

Comparative Sphagiology could prove useful, Kunte argued, since the Vedic alter-rituals remain unaltered in contemporary times and thus their comparisons with the Greco-Roman sacrificial rituals may provide valuable insights into their ancient past (Kunte 1880: 81-88).

5.3 Dating Vedic Texts: Jyotiṣa as Historical Hermeneutics

Jyotiṣa [astronomy] is one of the six Vedāṅga [auxiliaries of the Vedas]⁴⁹. The purpose of Jyotiṣa is described in *Vedāṅga Jyotiṣa* as follows: “The Vedas have indeed been revealed for the sake of the performance of sacrifices, but these sacrifices have been set out (to be performed) according to the (determined) sequence of time. Therefore, one who knows astronomy, the science of time, understands the proper performance of sacrifices” (quoted in Subbarayappa 2008: 2).

Jyotiḥśāstra of ancient India involved the use of complex mathematical formulations. In addition to knowing the Vedic rituals, the astronomer was also expected to be an expert mathematician. Jyotiḥśāstra involved time-reckoning on earth as well as the planets and stars lying in its proximity. Varāhamihira in his treatise *Bṛhatsamhitā* recommended that an expert astronomer must possess skills such as calculating the lunar days from civil days and sidereal days, deriving the longitude of the Sun from either the Moon or some other planet, calculate accurately the speed at which a planet moves and the rising and disappearing of asterisms in the sky (Subbarayappa 2008: 4).

Vedic astronomical texts are classified into three genres: the Siddhānta texts- which deal with the various methods of measuring and ascertaining the time, longitudes of planets, the movements of planets, the solar and lunar eclipses, etc. Time of earth is divided into aeonic cycles called a Mahāyuga of 43, 20,000 years. Each year in the Mahāyuga comprises of 360 solar days. However, the Siddhānta texts claim no final-word on the subject but are open to revisions. Thus, Niḷakantha Somāyāji in his *Jyotirmimāmsā* argued that if an observation goes against the existing Siddhānta, then a new Siddhānta-based work must be constructed in its place (Minkowski 2002). The Kāraṇa texts are manuals for computations which are records of observations over a long period of time. Finally, from the 10th century onwards, a new group of ancillary texts called Koṣṭaka texts came into being which were made up of tithī, nakṣatra

and yoga presented in a tabular format. These tables were used for preparing the *pancānga* charts (Subbarayappa 2008: 5-7; Pingree 1981).

Astronomical information embedded in ancient Sanskrit texts could be used to ascertain the date of their composition. Such a process would involve four basic scales of measurement: a) the rising and setting of the Sun being the lowest measure of time which determines day and night; b) the full and new moon day(s) would equitably divide the month into dark and bright fortnight comprising of 30 diurnal days; c) the progression of the Sun towards north or south directions would determine the season (s); d) 12 new moon and 12 full moon nights making up a year. Such smaller scales of measurement were developed by the Vedic astronomers to measure the revolution of the Sun and asterisms around the Earth. The vernal equinox takes 26,000 years to complete its revolution around the ecliptic. When the Sun moved northwards, it marks the inception of spring season, termed as Viśṇuvān. The solstitial and equinoctial days were determined by tracking the movement of the Sun through different constellations. These movements were commemorated through sacrificial rituals (Vaidya 1930: 27-29). Thus, the Mantras recited during Vedic sacrifices could reveal precise details of time-measurements and the date of their compositions. Since the Vedic commentarial tradition followed an unbroken and unified lineage for thousands of years, the later Vedicists, Mimāmsakāras, Vaiyākaranis as well as authors of Epics and Purānas took cognizance of the Jyotiḥśāstra-based temporality while writing their texts.

Indian Astronomy and advances in mathematics were regarded as important resources for acquiring knowledge about ancient Aryans. Early Orientalists such as William Jones were interested in mastering Vedic astronomical texts. Astronomical texts were taught at Hindu Sanskrit College in Benares (Baber 1996: 189; Franklin 2011: 223-240). In consonance with a steady deterioration in the Orientalist impression of ancient Hindu traditions astronomy, too, lost its importance. Thus, James Mill felt that the *Sūrya Siddhānta* (one of the primary post-Vedic texts on astronomy) was a perfect example of the falling nature of ancient Indian scholarship. Albrecht Weber also denounced the astronomical method as unenviable since the ancient rishis did not possess any modern instruments of measuring time or the movement of the planets and the stars. Therefore, the astronomical charts prepared by the Vedic rishis were, at best, speculative or, at worse, simply wrong. Moreover, lack of uniformity in astronomical charts used across South Asia added to the confusion. With the exception of

Vedānga Jyotiṣa, Orientalists argued, the Vedic astronomical concepts and their associative meanings were all borrowed from ancient Greece (possibly after the invasion of Alexander) and, thus, belonged to the latter phase of classical Sanskrit literature.

By early modernity scientific revolutions in Europe seem to have left an impact on traditional carriers of Hindu knowledge. Some Vedic astronomers of Benares, for instance, tried to revise their astronomical calculations based upon the Copernican readings (Minkowski 2001). But the great shift in Indian astronomy occurred during the 19th century. With the establishment of an observatory in 1840s, Bombay became an important place for undertaking strictly scientific research on astronomy. Bal-śāstrī Jambhekar and Keru Laxman Chatre were leading Indian researchers associated with the Bombay-Observatory. Astronomy also came to be taught at the Elphinstone College and the Deccan College, as a sub-discipline in mathematics as well as focusing on its philosophical and historical significance (Sen 2014).

Krishna-śāstrī Godbole in his *Antiquity of the Vedas* (1882) pointed out that humans deem it important to mark important events by remembering the date of its occurrence. However, during the antiquarian period “there were no events which appeared extraordinary to the people then living” and hence “[...] eras or dates are not found in the ancient works of any country” (Godbole 1882: 5). It should be noted that Godbole understood the ‘growth’ of civilization as an evolutionary process. Therefore, it was important for him to search for the origin of the Aryan civilization by dating its oldest text, viz. the *Ṛgveda*. Godbole used *Vedānga Jyotiṣa* [appended to the Ur-text of the *Ṛgveda*] and pointed out that since the first asterism in the list was Kṛttikā, through astronomical calculation he determined the date for the composition of the *Ṛgveda* as 20,000 BCE.

By his own account, sometime in 1888 Tilak stumbled upon a verse from Bhagavad Gītā in which Kṛṣṇa proclaimed to Arjuna that He was the alpha month, called Mārgaśīrṣa, of the (Vedic) calendar. This intriguing verse compelled Tilak to probe into ancient Vedic calendar-system. His findings were led him to write a long essay (Tilak 1999). Tilak had delivered two public lectures on Vedic astronomy at Pune in 1891 to gauge scholarly response to his ideas (Phatak 2006: 207). The essay was sent to the 9th Oriental Congress held at London in 1892 and its shorter version was published in the Congress’ proceedings. Thereafter, Tilak decided to publish the original essay as a separate book. *Orion* was published in October 1893. The chief objective of the book was to ascertain the age of the Vedas with the help of Indian

astronomy or Jyotiḥśāstra. Tilak was convinced that due to Jyotiḥśāstra's use of advanced mathematics in computing time, the astronomical texts, including the Vedas, were infallible. The dating of the Vedas or for that matter any ancient Indian text was important in the nationalist context of India's anti-colonial struggle.⁵⁰

Indological studies in the second half of the 19th century were particularly interested in dating Vedic literature. European Indologists had identified a continuous living tradition amongst the peoples of the Indian subcontinent which was attributed to their unique geographical, religious and historical similarities. The literature, it was assumed, produced since the Vedic period reflected these commonalities. However, Indological scholars were apprehensive of tracing the origins of this Vedic culture/literature since they believed that Hindu cults and customs were incapable of carrying the mark of history (Weber 1914). The earliest attempt by a European scholar to trace the origin of the Vedas was made by Friedrich Max Müller through his *History of Ancient Sanskrit Literature* (1859). The dates of the invasion of India by Alexander and the birth of Buddha were more or less fixed. Since Buddhism was seen as a reaction to the growing Brahminical tradition, Max Müller assumed that the *Sūtra*-texts were composed around the time of the Buddha [600-200 BCE]. Since the *Brāhmaṇa*-texts were based on Vedic hymns, Max Müller argued that the Vedas must have been composed between 1000-800 BCE, while their existence in oral form predated the written manuscripts by few centuries. Thus, Max Müller divided the composition of the Vedic literature into 4 phases: Vedic hymns (oral): 1200-1000 BCE, Vedic Hymns (written): 1000-800 BCE, *Brāhmaṇa* period: 800-600 BCE and *Mantra* period: 600-200 BCE.

In later years, Max Müller seems to have been affected by the raging debate amongst German Indologists over the differences between *Naturwissenschaften* [natural sciences] and *Geisteswissenschaften* [human sciences]. Language, the principal hallmark of humanity, was considered a defining feature of a social group. However, nature affected the development of languages and physical geography came to be associated with language, thus turning the latter into a 'natural science'. The arbitrary division of Vedic literature and culture had given way to a new explanation. Max Müller came to believe that language was a consequence of nature, inspiring him to connect language with geology. In his *Lectures on the Science of Language* [1861] he argued that a language grew organically alongside the physiology of earth (Rabault 2004). Thus, Max Müller was forced to reconsider his earlier decision to date the

Vedic texts. During the Gifford Lectures he admitted, “We could not hope to be able to lay down any terminus a quo. Whether the Vedic hymns were composed in 1000, or 1500 or 2000 or 3000 years BC[E] [sic.], no power on earth could ever fix” (Max Müller 1891: 18).

According to Tilak, Max Müller’s “literary or the linguistic method” resulted into arbitrary periodization of the Vedic texts (Tilak 1999: 2) since he paid scant attention to overlapping evolutionary textual patterns and made the division of years incoherent and, largely, ludicrous. Tilak observed that, “[T]he method may, indeed, be used with advantage to show that the Vedas could not have been composed later than a certain period; but it helps little in even approximately fixing the correct age of the Vedas” (Tilak 1999: 2). Using ‘astronomical method’ to ascertain the date of composition of post-Vedic texts was equally difficult-

“The different methods of astronomical calculations given by these works, the various eras that were established in India after Shalivahana or Vikrama, the introduction of the Brihaspatya cycle and the adoption of the Greek division of the Zodiac, make it extremely difficult to correctly interpret the astronomical references in the later [Sanskrit] works” (Tilak 1999: 4).

The current Hindu calendar begins with the month Caitra and the governing asterism is citrā. But in different parts of India the New Year Day is also celebrated in the months of Kārtika, Āśāḍha or Bhādrapada. William Dwight Whitney had discovered that there existed a time when the year would begin in the month of Mārgaśīrṣa. Hindus residing in North India consider the year to be luni-solar [that is, it uses civil and lunar days to calculate and divide months]. The confusion in measuring time [year] was a result of later additions to the original Vedic corpus. Yajña [Vedic- alter Sacrifice] was the foundation of Vedic culture. Yajña required an in-depth and precise knowledge of days, months and year. Yajñas were performed every morning and evening, on each new moon and full moon day and at the beginning of every season. The completion of a Yajña would coincide with the end of a year. Tilak informs those texts such as *Aitareya Saṃhitā* (2.17, 4.22), *Śatapatha Brāhmaṇa* (9.1.1, 2.7.1) and *Taittereya Saṃhitā* (2.5.7.3, 7.57.4) have used the term Samvatsara (which etymologically means “a period where seasons dwell, or a cycle of seasons” (Tilak 1999: 10) and have interchanged it with the term Yajña. Other ancient civilizations, such as the Greek and the Iranian, also used similar means of time-keeping and is evident with terms such as ‘yaj’ (Iranian) and ‘agas’ (Greek) which share a common root to ‘yaj’ (Sanskrit) (Tilak 1999: 11, note). A third term,

namely Prajāpati, found in Vedic mythology, also meant a year (this part will be dealt later). The day of the Yajña was called sāvana. There were 30 sāvana days (making up a month) and 360 sāvana days made up a year. However, the synodic months used by the lunar calendar makes up 354 days which was used by ancient Aryans. “The zodiac was not yet divided into twelve equal parts, and the solar month, as we now understand it, was unknown [to ancient Aryans]” (Tilak 1999: 12). Therefore, ancient Aryans came up with the notion of an intercalary year with which the intermediate days could be accounted for ⁵¹.

The next part of the puzzle was to precisely assess the commencement of the year. The *Vedānga Jyotiṣa* marks the beginning of the year at the winter solstice. Significant Vedic texts such as *Aśvalāyana Smṛti* (1.2.14.1, 2.2.14.3) or Jaimini’s *Mīmāṃsa Sūtra* (6.8.5) suggest that important ‘Deva’ ceremonies must be performed on this day of Uttarāyaṇa. Tilak disputed these claims and argued that older texts like *Surya Siddhānta* (14.10) stated that the year was divided on the equinoctial day. If that were the case, then, mathematically it was impossible to place the winter solstice on either side of the radius. The word Uttarāyaṇa means ‘turning towards the north from the southernmost point’ but Tilak pointed out that it could also mean that “[.] the passage of the sun into the northern hemisphere, i.e., to the north of the equator” (Tilak 1999: 17). Other terms like Devayāna used interchangeably with Uttarāyaṇa were equally fallible. Since the seasonal cycles are differently experienced in Indian sub-continent and Central Asia it must have led to the many distortions and confusing statements in the Vedic and post-Vedic texts. In India, rains occur after the summer solstice while in Central Asia they fall after the autumnal solstice. But in either case, the end of monsoon season does not correspond with the summer solstice. The Devayāna understood by ancient Aryans comprised of three seasons (vasaṅta, grīśma and varṣā) and was made up of 6 months when the sun moved in the northern hemisphere and the time bracket was from vernal to autumnal equinox. But when the Vedic Aryans settled in India, they must have changed the order to suit the seasonal cycle of India (Tilak 1999: 19-20). If later Aryans, indeed, changed time-measuring and the day which marked the commencement of the year, then, Tilak argued, they must have been compelled to change the calendar system as well.

Ancient Aryans did not possess modern instruments to measure the distance between stars. They divided the sky (seen as a dome-like structure) into 27 parts or constellations/asterisms. Each of 27 asterisms was determined by one ruling star. According to Whitney, the present

calendar which begins with Aśvin asterism as the first in the cycle and the vernal equinox ends at Revatī asterism must have come into vogue in 490 AD. In his *Panca Siddhāntika* Varāhamihīra had argued that the year commenced in the month of Māgha and the asterism Maghā. Other commentators such as Gārga, Śuśruta, Vāgabhaṭa corroborated the claims of Varāhamihīra. One also finds an important incident in *Mahābhārata* [Anuśāsana parva, 167. 26-28]- After getting fatally wounded in the Great War Bhīṣma lay on a bed of arrows awaiting his death. However, since he possessed the boon of ‘controlling death’, Bhīṣma decided to die in the first fortnight of Māgha month (considering it auspicious). Such references scattered in ancient Aryans texts suggested to Tilak that “[...] before the Hindus began to make their measurement from the vernal equinox in Revati there existed a system in which the year commenced with the winter solstice in the month of Magha and the vernal equinox was in the last quarter of Bharani or the beginning of the Krittikas” (Tilak 1999: 29)⁵². The Krittikās must have fallen on or near the winter solstice since if it were to fall on the summer solstice then the composition of *Taittereya Saṃhitā* (where one finds this reference) will have to be placed in 22,000 BCE, a claim which Tilak believed to be “too extravagant to deserve any consideration”. The verses in the *Taittereya Saṃhitā* were written in the ‘present tense’ which Tilak understood as ‘records’ of the events as they were happening and thus concluded that the new year used to commence with the winter solstice. Thus, against dominant contention of the European scholars like Bentley who were in favour of 1426 BC, Tilak calculated the years when the *Taittereya Saṃhitā* was composed to be 2350 BCE (Tilak 1999: 42-45).

By placing the *Taittereya Saṃhitā* in the 2nd millennium BCE, Tilak had disturbed the dominant European Indological scholarship which showed no inclination to accept such remote antiquity to the Vedic culture. “I cannot also understand”, he wrote, “why scholars should hesitate to assign the Vedic works to the same period of antiquity which they allow to the Chinese and the Egyptians” (Tilak 1999: 43). If assigning such remote antiquity to the *Saṃhitā* texts was conceivable then common sense suggested that the Vedic texts, and especially the Ṛgveda, had to be written many centuries prior to it. The Indological studies of that time also suggested the same conclusion. Max Müller for instance had declared on multiple occasions that the Ṛgveda was the oldest text of the Indo-European language group (and possibly the world).

The early Vedic texts do not speak of Krittikās as the ‘mouth of the year’. However, there are few references to a term ‘agrahāyana’. Tilak used his Sanskrit philological knowledge to argue that the term meant the Mṛgaśiras asterism. The Sanskrit word ‘nakṣatra’, as is the grammatical formulation found in Panini’s *Aśṭādhyāyī* [4.2, 3], is the source of the name of the full-moon day or any day of the month. The term ‘agrahayāni’ literally means ‘the beginning of the year’ and thus the word Mṛgaśiras gave the name Mārgaśīrṣa to the full-moon night of that month. The only clear association of the Mṛgaśiras with the month and the commencement of a new year are found in the Bhagavad Gītā [10.6] which, as argued earlier, Kṛṣṇa reveals himself to Arjuna as the alpha and omega of the Cosmos and all the events happening in it. Mṛgaśiras, as the term suggests, refers to the ‘head of the antelope’ and the legends which grew around it. Ṛgveda carries a story of Prajāpatī [10.61.5-7] where the severed star is visualized as his head and the legend of Indra [1.52.10, 4.18.9, 8.6.7] who shoots the arrow to kill his enemy Vrtra. References to the Orion belt and the three stars and the Mṛgaśiras constellation in the writings of Plutarch and in the *Zend Avesta* suggested to Tilak that knowledge about these constellations was restricted to the Aryans and, contrary to the dominant European belief, unknown to ancient Egypt. He wrote, “‘I have deemed it necessary to make these remarks because Mr [William] Gladstone in his ‘Time and Place of Homer’ observes that Orion is either ‘non-Hellenic or pre-Hellenic’. Plutarch’s testimony shows that the constellation is not of Chaldean or Egyptian origin. The conception must therefore be pre-Hellenic, or in other words, Indo-Germanic, and I think [...] the Idea of Orion was fully developed before the Greeks, the Parsis and the Hindus separated” (Tilak 1999: 74, note).

Tilak concluded his investigations into the pre-Kṛttikā phase of Vedic texts by placing Mṛgaśiras (Orion) as the primary asterism when the year (yajña) commenced. He stated-

“Scholars have already discovered the similarity between the traditions of the three nations [India, Iran and Greece] but without any clue to the period when all the Aryans lived together, it was impossible to reduce all these traditions into a harmonious whole. The traditions of the Orion and especially its position at the beginning of the equinoctial year do however, supply such a clue and with its help the mystery about the oldest periods of Aryan civilization is considerably cleared up” (Tilak 1999: 150).

During the different phases of its growth, the Aryan civilization adopted different asterisms to mark the beginning of the year such as Ashvin, Krittikās and Mṛgaśiras. There are, moreover, references in the *Taittereya Saṃhitā* [4.5.1], *Aitereya Brāhmaṇa* [1.7] and *Ṛgveda* [10.72.8] when the sacrifices, once abandoned, were restarted by Aditi. Thus, during its earliest phase the vernal equinox was in the Punarvasu constellation (Tilak 1999: 152-57). As a result, the four phases of the Vedic civilization, based upon positions of constellations found in the Vedic texts and the backward mathematical calculations based upon the pañcāṅga (Vedic calendar) were presented by Tilak as follows:

- a) The pre-Orion stage: The earliest phase when the Vedic hymns were partially composed. Aryan deities were given their names, epithets and qualities. The Parsi and Greek texts have no references to this time since the common Aryan stock continued to flourish. This phase must have spanned from 6000 BCE to 4000 BCE.
- b) The Orion stage: The next phase must have begun with the vernal equinox in the Ārdrā constellation and ended with its recension to the Krttikās constellation. Since most of the Rigvedic hymns were composed during this period Tilak regarded this phase as the most important period of the Aryan civilization. Tilak found many legends in Parsi and Greek texts corroborating with myths found in the *Ṛgveda*. In the final years of this phase, the common Aryan stock must have disintegrated. Tilak assigned the years 4000-2500 BC to this phase.
- c) The Aśvin stage: The astronomical science was systematically used and codified during this phase. Important texts such as *Vedāṅga Jyotiṣa* must have been written. Since much of the Rigvedic hymns had turned unintelligible, the *Brāhmaṇa* texts were composed. The Vedic texts were systematized. The Vedic- Aryans may have come in contact with the Chinese and the latter must have borrowed from the Vedic Nakṣatra system. Tilak allocates the timeline of 2500-1400 BCE to this phase.
- d) Sūtra stage: The final phase of the old Sanskrit literature falls between 1400 BC and 500 BC and is popularly known as the Sūtra phase when a large number of Sūtra-texts were composed. It ended with the rise of Buddhism (Tilak 1999:157-58).

It was clear to Tilak that there was, plausibly, a stage prior to 6000 BCE when the Vedic hymns were orally transmitted. But he was unwilling to speculate upon this earliest stage of Vedic civilization since material evidence was unavailable. But, considering that the Rigvedic hymns

had turned unintelligible within 800 years, he argued that the oral stage of Vedic civilization could not be stretched beyond 7000 BCE.

Orion (Tilak 1999) received lukewarm response from Marathi scholars and śāstrīs but excited some European Indologists. The renowned American Indologist Maurice Bloomfield, upon receiving a copy of *Orion* [sic.] from Tilak, was charmed by his deep scholarship and ingenious treatment of Vedic texts. Speaking at the annual Convocation Ceremony of John Hopkins University in 1893 Bloomfield admitted that Tilak had convinced him “[...]in all the essential points” He hailed *Orion* as “[...] unquestionably the literary sensation of the year [...]” (Bloomfield [1894] quoted in Joshi 1983: 119)

The renowned Indologist Georg Bühler, who was on the review committee of the 9th Oriental Congress, supported Tilak’s arguments and “[...] recommended that his work should be printed in its entirety, as I believed that he had made an important discovery [...]” (Bühler 1894: 239). Incidentally, Hermann Jacobi (1894: 154-59), using Vedic astronomy, had reached conclusions similar to those found in *Orion*⁵³. The common elements in the works of Tilak and Jacobi may be summarized as follows- Both Jacobi and Tilak agreed that the asterism counting and its correlation to the months, solstices, etc. belonged to the pre-Kṛttikā period when Mṛgaśiras played a vital role. Both agreed that the beginning of the year could not have been during the monsoon since much of outdoor activities were shut. Both also agreed that at the time of writing the *Brāhmaṇa* texts the ‘Pladeas’ (Kṛttikā) was the first in the series of constellations and which fell in the spring equinox. While much of the textual references of both Tilak and Jacobi were borrowed from the Vedic corpus Jacobi also utilized Buddhist and Jain texts. Moriz Winternitz was pointing out that spring equinox fell in the Kṛttikā in 2500 BCE whereas it fell in the Orion in 4500 BCE. Therefore, Jacobi was content at placing the Orion stage of Aryan civilization to 4500 BCE and the Kṛttikā period, when the hymns were collected and codified, to the years between 3000 and 2500 BCE (Winternitz 1918; Bryant 2001: 251-258).

Bühler raised doubts about the term Agrahāyana used by Tilak and argued that the time when the Mṛgaśiras series was practiced by Aryans could be around 3000 BC and added-

“This result does not prove that any line or verse of the Vedas was composed in those remote times nor does it necessarily prove that the astronomical observations, on which it is based,

were made by the ancient Indo-Aryans. For the whole Nakshatra system with the Mrigashiras-series may have been borrowed from one of the ancient Semitic or Turanian nations, some of which possessed an astronomical science in very early times” (Bühler 1894: 245).

However, he believed that the practice of arranging the asterisms with Kṛttikās at the vernal equinox was an Indian invention and put its maiden use in 2550 BCE (Tilak had placed it in 2350 BCE) (Bühler 1894: 245).

Few European scholars responded negatively to Tilak’s claims. George Thibaut, for instance, was not ready to grant high antiquity to the *R̥gveda*. Presenting a fresh reading of the gavam-ayana ritual, Thibaut concluded that the winter solstice must have fallen in the Śraviśthā asterism and the dates for the Kṛttikā stage allotted by Tilak were improbable (Thibaut 1895). E. W. Hopkins, too, was unconvinced of Tilak’s arguments (Hopkins 1895: 5).

5.4 In Search of a Homeland: Territorializing Supra-national Space

Tilak believed, beyond doubt, that the Vedic Aryan civilization existed around 4000 years before the Common Era and that Vedic astronomical works as well as prevalent data from comparative mythology and philology directed to this conclusion. The next important question before him, and in some sense the logical corollary of his earlier investigations, was the issue of the original homeland of the Aryan civilization. That is to say the migration of the Aryan people during early antiquity had to be studied in order to trace the origins of the Aryan civilization. As mentioned earlier, European scholars were divided in their opinion on the birth place of the Aryan civilization. Tilak had studied the ‘European’ and ‘Central Asian’ hypotheses through books such as Isaac Taylor’s *The Origin of the Aryans: An Account of the Prehistoric Ethnology and Civilisation of Europe* [1890] (1892)⁵⁴. He was well acquainted with some of the claims made by Marathi scholars as well. But he remained unconvinced of the European and Asian origin of the Aryan race.

During his incarceration (second time) on charges of sedition, Tilak embarked upon his project of deciphering the original homeland of the Aryans. He compiled and translated many of the passages from the *R̥gveda*, which are used as evidence⁵⁵ to support his ‘Arctic’ hypothesis⁵⁵. The first draft of the manuscript was complete by the end of 1898 but Tilak “[...] hesitated to publish the book for a long time- a part of the delay [was] due to other causes- because the

line of investigation had ramified into many allied sciences such as geology, archaeology, comparative mythology and so on” (Tilak 2008: n.p.). Over the years couple of years, Tilak showed the manuscript to such distinguished scholars as R. G. Bhandarkar, Shrinivas Iyengar and Prof. M. Rangacharya (Tilak 2008). After much consultations and discussions, Tilak decided to revise his thesis⁵⁶. *The Arctic Home in the Vedas* was published by Aryabhushan Press in March, 1903.

While writing the *Orion* Tilak had formulated a working-idea regarding the original homeland for the Aryans. In his previous work one finds the following passage:

“It is difficult to say whether the ancient Aryans ever lived so near the North Pole as to be aware of the existence of a day extending over at least two or three if not six months of the year. But the idea that the day of the Devas commences when the sun passes to the north of the equator, appears to be an old one” (Tilak 1999: 22).

He was quick to add that Herodotus (400 BCE) also spoke of a people who slept through 6 months of darkness. Herodotus, Tilak felt, was referring to the Aryans (Tilak 1999: 22-23).

19th century Orientalists, using comparative mythology or philology, believed in excavating material cultures of ancient civilizations. Therefore, their primary resources were myths and legends encoded in texts. Tilak found these scholarly endeavours plagued with narrative inconsistencies resulting into incorrect results. Tilak wrote, “The mythologists carried on their researches at a time when man was believed to be post-Glacial and when the physical and geographical surroundings of the ancient man were *assumed* not to have been materially different from those of the present day” (Tilak 2008: 3, emphasis in the original). Thus, ancient myths and legends encoded in texts were interpreted with the supposedly static environment of earth and the people who inhabited them. But subsequent discoveries in archaeology and geology gave the old theories “[...] a rude shock” (Tilak 2008: 3). They found remnants of human civilisations during the last phase of the Quaternary Era, that is, during the Glacial Epoch when earth’s climate was substantially different from that experienced in modern world. Therefore, studies of early human antiquity would have to take into consideration this paradigmatic shift in climate.

Consequently, *Rgveda*, considered the oldest artifact and record of ancient Aryans, had been wrongly interpreted by European scholars with many declaring Vedic literature ‘unintelligible’

and/or 'corrupt and imperfect'. Tilak countered this argument considering that, "[...] no etymological or philological analysis can help us in thoroughly understanding a passage which contains ideas and sentiments foreign or unfamiliar to us" (Tilak 2008: 4). Similarly, Vedic commentaries by Yāska (5th-7th century BCE) or Sāyana (c. 14th century) had, in subsequent centuries, turned obsolete rendering imperfect interpretations (Tilak 2008: 5-6).

Tilak used the different stages of the planetary growth found in prevalent geological literature and complemented it with archaeological findings in tracing the origin and growth of human civilisations. One of the four races living in Europe during the post-Glacial Era branched off and settled in the region surrounding Jaxartes (Neolithic humans). Tilak pointed to Isaac Taylor's attempt at comparing the Aryan languages with the Ural-Altai languages to argue that the Central Asian Aryans originally belonged to the Finnic race. Tilak called this argument "merely a conjecture" and stated, "[M]ere similarity of inflectional structure is no evidence whatsoever in deciding who borrowed from whom" and that he found it strange that the Finns migrated twice from their homeland (Tilak 2008: 15). Thus, the original homeland of the Aryans must have been elsewhere during the preceding Palaeolithic Period. Presence of Aryans in Central Asia during the Neolithic Period was during their long-migration which was possibly south-wards. The southward migration of Aryans to Asia and Europe may have been caused by catastrophic climatic changes. Seeking refuge in modern geological and archaeological discoveries Tilak suggested that early human civilisation (that is, prior to the inter-Glacial Period) flourished around the North Pole and pointed towards human fossils found in Siberia dating around 8000 BCE (Tilak 2008: 31).

But how could the North Pole be hospitable? 19th century geologists were suggesting that prior to the Glacial Epoch the circumpolar region had mild climate. In fact, there was a strong belief that in the pre-Glacial period, the climate on all parts of the planet was uniform and hence congenial to human habitation. That may be so. But it still did not explain the cradle human civilization (or at least the Aryan-Vedic civilization) was in the circumpolar region. Tilak explained:

"[S]upposing that an Arctic continent, with an equable and pleasant climate, existed during the Inter-Glacial period, and that the Palaeolithic man ranged freely over it, it does not follow that the ancestors of the Aryan race lived in the Arctic regions during those days, though it may render such a hypothesis highly probable" (Tilak 2008: 34).

The only option available to a modern Western scientist was to wait for fresh archaeological discoveries. Tilak pointed out an alternative route while retaining the hypothesis, namely, to scrutinize the Vedic texts and look for clues. The method, in Tilak's opinion, claimed infallibility since Vedic texts and traditions "[...] were collected thousands of years ago and handed down unchanged from that remote time" (Tilak 2008: 35). Tilak proposed to set aside traditional Vedic commentaries (which believed in the autochthonous origin of Vedic-Aryans) and instead reinterpret Vedic passages hypothesizing their allochthonous (circumpolar) origin. Seeking descriptions of physical surroundings or flora-fauna was futile since Vedic Aryans derived material meaning through objects in the sky. The Aryan life-world revolved around Vedic alter-rituals. Dawns and dusks, waxing and waning of the moon, location of constellations and the duration of the night and the day were important means of measuring time (both horizontal and vertical). Therefore, these phenomena, often camouflaged in legends and myths, found elaborate descriptions in the early Vedic texts.

If the Aryans were living in the region lying between the North Pole and the Polar region as opposed to inhabiting the Polar region, they would experience different daily occurrences in the sky. An observer standing near the North Pole would experience 6 months of day and 6 months of night. The terrestrial Poles, which act as the termini of the Earth's axis, have remained stable since the earliest geological times. However, the equinoxes have shown periodic changes. Therefore, the aerial position of the 'Polar Star' was different 7000 years ago. The different aerial characteristics of the sky seen from the Polar and circumpolar regions were described by Tilak as follows:

- a) An observer, standing on the North Pole, would find that the spatial dome revolves around him from left to right, the stars, instead of rising and setting, would move round and round in a horizontal plane. The Southern Hemisphere would be invisible and the equator would act as a horizon. Thus, the Sun would 'appear' to rise from the South. The Sun would continue to remain visible for six months and will disappear ('set') to the South and the 'long night' would commence. Unlike the tropical region, the Polar region experiences about 60 days of dawn and twilight. Thus, the Polar region does not experience absolute darkness for more than 60 days.
- b) In the Circumpolar region the 'long night' would be of two months where the Sun appears to have descended below the horizon. The Winter Solstice will fall in the

middle of these two months of darkness (21st December). Similarly, the Summer Solstice (21st June) would be preceded and followed by one month each of a 'long day'. The remaining months would experience day and night similar to the temperate region. The dawn would continue for several days depending upon the latitudinal location and proportionate to the North Pole of lesser grandeur and duration (Tilak 2008: 48-50).

The *Ṛgveda*, Tilak observed, did not emphatically state the long dawn or the long night but references and elaborate descriptions of Devayāna and Pitṛyāna found in the text suggest a long stretch of night and dawn respectively (Tilak 2008: 58- 62). This is further validated by the instructional manual of Vedic rituals found in the *Aitareya Brāhmaṇa* [4.7]. Tilak wrote, "[...] it is expressly laid down that the *śāstra* is not to be recited until the darkness of the night is relieved by night" (Tilak 2008: 68, emphasis in the original). Amongst the several passages from the *Ṛgveda* which deals with the so-called perennial or long-drawn 'dawn' (*uṣas*), Tilak singled out a verse [*Ṛgveda*, 7.76.3] and translated it as follows: "Verily, many were those *days* which were aforesaid at the uprising of the sun, and about which, O Dawn! Thou wast seen moving on, as towards a lover, and not like one (woman) who forsakes" (Tilak 2008: 73). Vedic commentators and modern European scholars, unaware of the Arctic hypothesis, misread the verse. Sāyana, for instance, could not comprehend that there could be multiple days of dawns before the first beam of sunrays reach the earth. Renowned British Sanskrit scholar Ralph T. H. Griffith rendered the term 'ahāni' correctly as 'mornings' but could not explain its significance. Hermann Grassmann and Alfred Ludwig, the first German translators of the *Ṛgveda*, followed Sāyana and understood the verse as 'splendours of many dawns' while Rudolf von Roth- the editor of Yāska's *Nirukta*- interpreted the term 'prācīnam' as 'to the east'! (Tilak 2008: 74-75).

Following an explanation of the 'long dawn' the idea of the 'long night' too had to be illuminated. This was a fairly simple since there were numerous and fairly straightforward references to the night in the *Ṛgveda* and other Vedic literature. Tilak, using his Sanskrit expertise, reinterpreted words such as *virūpe* as 'varying lengths' rather than 'of various colours'. Such evidence had also to be checked with the seasons found in the calendar experienced by people. Interestingly, Tilak did not think it prudent to borrow from his earlier work but went about with a fresh investigation of the Vedic texts. As is known, seasons,

months and years are closely bound in calendars around the world. Since the period of sunshine on the North Pole is of continuous 7 months, the legend of Aditī (found in *R̥gveda*), was interpreted by Tilak as representing the Polar experience. The number 'seven' is crucial in this legend Aditī gave birth to seven sons (Ādityas). There were seven priests who aided in the birth rituals of Aditī's sons. The principal planet Āditya (that is, the Sun) is carried around in a seven-wheeled chariot with a horse having seven names, etc. However, the circumpolar regions show varying periods of sunshine and the bright days may easily extend to 9 or 10 months of the year. Tilak found the notion of 'navagvas' and 'daśagvas', that is, the special sacrifices which were continued for 9 or ten months (or took 9 or 10 months for completion) important in this context. These sacrifices were an annual affair, thus, further signifying the repetition of the natural phenomenon in a circular and repetitive manner. Some more legends such as the long fight between Vṛtra and Indṛa, the long walk of the cows, and the release of the captive waters after the passing of the long night were examined by him in great details. Of the latter he wrote-

"The ancient Aryans, like the old Hebrews, believed that the subtle matter, which filled the whole space in the universe, was nothing but watery vapours; and secondly that the movements of the sun and the moon and other heavenly bodies were caused by these vapours which kept on constantly circulating from the nether to the upper and from the upper to the lower celestial hemisphere. That is the real key to the explanation of many a [sic.] Vedic myths" (Tilak 2008: 216).

These vapours were imagined as streams or rivers or even oceans by the ancient Vedic bards. Based on this, Tilak was unwilling to accept that the sapta-sindhū, described in the Vedic texts, could have been somewhere near Punjab in north India. For him, the rivers represented imaginary Cosmic rivers made of ether and were not to be confused with some region on the earth (Tilak 2008: 218; 235-37).

Finally, Tilak admitted that while he was certain of the Polar region as the primal dwelling place of ancient Aryans, he could not ascertain the exact longitude. But since the legends and religious traditions were preserved in the Brahmin and Parsi texts he was of the view that the ancient Aryan home must have been located north of Siberia rather than to the north of Russia or Scandinavia (Tilak 2008: 343). He further stated, "I have been gradually led to infer [...] that at about 5000 or 6000 BC the Vedic Aryans had settled on the plains of Central Asia",

period when the destruction of the earlier Arctic home of the Aryans was known to the Vedic bards, a belief furnished by the Vedic chronology and calendar absolutely independent of recent scientific discoveries. He found it difficult to push the origin of the Aryan race prior to the great deluge which occurred around 10000 BCE and forced their migration. Similarly, he also accepted the claims made by William F. Warren in his *Paradise Found* [1885] that other races may have co-habited the Arctic region along with the Aryans but the Aryans, as the evidence suggested to him, were of finer quality (Tilak 2008: 361).

5.5 Responses to the 'Arctic Hypothesis'

While Tilak's 'Arctic hypothesis' was largely debunked by Western Indologists (Macdonell 1921)⁵⁷ it generated tremendous excitement amongst Indian scholars. From 1892 to 1903, Tilak's popularity had increased manifold. Since the book was written in English, it attracted the attention of non-Marathi native readers as well, contributing to its success. C. Y. Chintamani, chief editor of the Allahabad based newspaper *Leader*, wrote favourable reviews (Phatak 2006: 229). Unlike his previous book, which required a reader to have some rudimentary knowledge of Vedic astronomy and mathematics, *The Arctic Home* [1903] could be read and analysed by amateur historians as well. The Arctic thesis was quite novel. Tilak had used around 350 verses from *R̥gveda* (barring the repetitions), many verses from *Brāhmaṇa*, *Smṛti*, *Samhitā* and *Upaniṣad* texts to write his book. Some traditional pundits were unhappy with his interpretation of these 'sacred texts'. Kashinath-śāstrī Lele, for instance, refuted Tilak's Rigvedic interpretation and embarked upon writing a fresh translation and commentary on the *R̥gveda* but could publish only the first aṣṭaka (Lele 1911). However, westernised Marathi scholars were also deeply disturbed by Tilak's 'Arctic Hypothesis'. Narayanrao Pavgee, for instance, took great pains at debunking Tilak's claims.

Pavgee was a prolific writer and an admirer of Tilak. In his reminiscences of Tilak, Pavgee points out his first reaction after reading *The Arctic Home* [1903] as that of 'disbelief' since Tilak had not paid adequate attention to the Soma Sacrifice which was the cornerstone of Vedic alter-rituals. Pavgee spent many years in exploring the possibility of Arctic origin of the Aryan civilization. He believed that since the Soma flower, so central to most Vedic rituals, did not grow in Central Asia, Europe or in the Arctic Circle Tilak's claim of circumpolar origins of the Aryan-Vedic civilization was deeply problematic (Pavgee in Bapat 1925: 523-27).

Pavgee's book *The Aryavartic Home and the Aryan Cradle in the Sapta Sindhus or From Aryavarta to the Arctic and From the Cradle to the Colony* (1915) is a fascinating text. Pavgee took great pains at acquainting himself with the latest geological studies on the development of earth, its atmosphere, its flora and fauna and the development of human civilization. Pavgee, too, used the Vedic texts in order to factually trace the genesis and growth of the Aryan civilization which he justified thus-

“We must not forget, nor should we ever ignore the fact that even in the Rigveda itself, the *past indelible traditions of our Aryavartic Home* vividly crop up every now and then, thereby exhibiting to the mind its reality in glowing colours, as if to show that the impression made with active manifestation on our Rigvedic Fore-Fathers, in respect of *our origin* in the renowned *Land of the Seven Rivers*, were not only *genuine*, but were *incapable of ever effaced* from their memory on any account whatever; though at times, they became dim, owing to the hoary antiquity of the ‘immeasurable past’” (Pavgee 1915: 20, emphasis in the original).

Pavgee was irritated with Tilak's unwillingness to grant autochthonous origin to the Aryan race, i.e., the Sapta-sindhū region. He retorted- “We do not understand why Mr. Tilak takes only the Panjab [sic.] by the expression Sapta-Sindhavah [sic], when as a matter of fact, sapta-sindhavah covers the whole wide region watered by the Ganges, the Jamna [sic.] and the *chief* five rivers of the Panjab [sic.], which in turn include the Saraswati, the Sutledge [sic] (Shutudri), the Ravi (Iravati or Parushni), the Chenab (Chandrabhaga or Asikni) and the Indus (Sindhu), making Seven Rivers in all, of course excluding tributaries [...]” (Pavgee 1915: 151-52).

But Pavgee did believe that ancient Aryans migrated and reached the nooks and corners of the globe. Their outward journey, possibly to the North Pole as well, was a result of the ensuing Ice Age. The great Aryan migration was coordinated by Manu. The Aryans ‘colonized’ the Arctic region while the Ice Age was wasting away tropical regions. Verses found in the Vedic literature representing the Arctic region must have been composed during such a period of ‘colonization’. With the conclusion of the Ice Age, the Aryans must have returned to their original homeland (Pavgee 1915: 26-35). But why would Vedic Aryans choose to travel thousands of miles in adverse climatic conditions? Pavgee gave a bizarre answer to this fundamental query: ‘adventure’. He wrote, “[The] distant climes had naturally excited their [Aryan] curiosity; while thirst for fame had induced them to carry their arms far and near, for

spreading our Aryan civilization in all directions [...]” (Pavgee 1915: 379-80). Needless to say, the image of the Aryans, which Pavgee was trying to build, was not of a contemplative, poetic or philosophical race but that of fierce warriors-

“[O]ur Progenitors were a gifted race and our Rig-Vedic Ancestors having been their direct descendants had inherited all the best traits of their character and their finest qualities. Evidently, they were men of *strong will* and *great originality*, had immense faith as also the strength of their conviction, and were, moreover, extremely hazardous and fearless” (Pavgee 1915:380, emphasis in the original).

Of course, such capacities of the Aryans to migrate and ‘colonize’ the Arctic Circle also had to extend sideways. Thus, Pavgee argued that many of the artifacts found during excavations in Egypt, Peru, North America, Africa and South-East Asia belonged to the Aryan expansion when these regions were ‘colonized’ by them (Pavgee 1915: 408-428).

Tilak wanted to revise *The Arctic Home* in the light of the new evidence and scholarly studies. It is hard to determine, however, whether he would have revised his ‘Arctic Hypothesis’. Nevertheless, his desire to revise and publish an updated version of the book was articulated during many of his personal conversations. One such conversation has been recorded by S. K. Belvalkar- the renowned scholar on Mahābhārata. Tilak wanted to incorporate ‘Scandinavian Mythology’ in the revised edition of his book and had collected substantial preliminary material pertaining to it. Tilak had requested Belvalkar, sometime in 1916, to spend a summer with him (presumably in his house near the Sinhagad Fort) and assist him in revising the book. However, Belvalkar showed no inclination and the matter rested (Bapat 1925: 71).

5.6 Chaldean Vedas and Vedic Chronology

Tilak’s final contributions to antiquarian studies was through a small essay on the Chaldean Vedas and some preliminary notes on Vedic chronology. The essay ‘Chaldean and Indian Vedas’ (Tilak 1977) was written by Tilak as a contribution to a volume commemorating the 80th birthday of R. G. Bhandarkar. As mentioned earlier, Tilak intended to revise *The Arctic Home* [1903] and in all probability the essay on Chaldean was meant to be incorporated in its revised edition⁵⁸. In the late 19th century Orientalist scholars had deciphered the script found on the bricks belonging to the Mesopotamian civilization. The inscriptions spoke of the

Assyrian civilization of the Turanian race settled on the banks of river Euphrates. This civilization prospered 2000 years before the Common Era. The Orientalists called these inscriptions the 'Chaldean Vedas'. Tilak had earlier suggested that the Vedic civilization flourished between 8000-6000 BCE and, thus, the Chaldean and the Vedic civilization were co-terminus. In the essay he pointed out two words 'mana' and 'sindhu'. The former was used, according to Prof. A. H. Sayce, to refer to the Muslin cloth used by the Chaldeans whereas the word mana occurring in *R̥gveda* (and referring to mound) must have been borrowed from the Chaldeans. Further, the discovery of the Hitani inscription of 1400 BCE contained the names of Vedic gods and deities such as Mitṛa, Varūṇa, Aśvin, etc. proving beyond doubt for Tilak that "the rulers of Northern Mesopotamia worshipped Vedic gods" (Tilak 1977: 32). Prior to 1400 BCE, the Chaldean was ruled by people of the Mongolian race which believed in black magic and sorcery. Tilak pointed out that the *Atharvaveda* contained information about magic and that traditionally it was believed that there were just three Vedas. Thus, he stated-

"[I]f we therefore discover any names of the Chaldean spirits or demons in the Atharva [sic], it could only mean that the magic of the Chaldeans was borrowed, partially at least, by the Vedic people prior to the second millennium before Christ, and that this could not have been done unless the Chaldean people were either the neighbors of Vedic tribes or traded with them even in those ancient days" (Tilak 1977: 33).

Tilak pointed out to words such as 'taimaata', meaning serpent, found in *Atharvaveda* [5.13.6] as resembling Tiamat which represented a female monster snake in Chaldean legends. He furnished many terms from the witch-craft section of the *Atharvaveda* and compared them the Assyrian, Chaldean and Accadian scripts to substantiate his claim. He drew the following inference-

"When the old religion of sacrifice was thus tampered with, and hybrid hymns incorporating foreign magical incantations and formulae were tried to be introduced in the Vedic literature, it was natural that the Veda which contained these incantations should come to be looked upon with scant respect or even with contempt by the orthodox Vedic community, who must then have regarded the Atharvaveda as a novel departure in their religious observances" (Tilak 1977: 35).

God's secret name, Jehovah, revealed to Moses may have been, according some European scholars of Chaldean origin. The Chaldean word 'yahve' argued Tilak was a corruption of an older Vedic word 'yahu' which means 'great' as is found in *Rgveda* while describing the sacrifices offered to Soma [9.75.1], Agni [3.1.12] and Indra [8.13.24].

Tilak had also identified few legends common to Vedic and Chaldean texts. These included the married couple Viṣṇū and Lakṣmī. Tilak believed that the Vedic deity Viṣṇū shared a strong resemblance with the Chaldean deity Mārduku. However, when the Vedic people wanted to incorporate Mārduku into the Vedic cosmogony he had to be turned into a feminine subject. Thus, Mārduku became Lakṣmī. Similarly, the term 'śikhar' found in Sanskrit may have been of Assyrian origin (zigurat) from where the post-Vedic people got the idea of building temple atop a hill⁵⁹. Tilak wanted to hear the opinions of other scholars on this novel subject which he was exploring. Therefore, during his year-long stay in England during 1918-19, he had sent a copy of his essay to such pioneering British Assyriologist as Theophilus Goldridge Pinches and Oxford historian A. H. Sayce. Both responded positively to Tilak's scholarly claims (Tilak 1997: 773-74, 776-77, 779).

Tilak's other major endeavour was to write a book on astronomy. The book was planned during his incarceration in Mandalay. In a letter sent to his nephew D. V. Vidwans on 3rd November, 1913 he wrote of his intention to write a "book on Vedic Chronology" which was essentially a "revised and enlarged edition of Orion [sic.]" (Tilak 1966: 176). However, four months later he lamented that he could finish only two chapters of the book owing to harsh winter and his weak body (Tilak 1966: 176). Having mastered the German language, he also intended to translate Albrecht Weber's *Die vedischen Nachrichten von den Naxatra* [1860] into Marathi but forfeited the idea (Tilak 1966: 84). Tilak's scribbled notes on Vedic chronology were posthumously published as *Vedic Chronology and Vedanga Jyotiṣa* (1925). In the 16 odd pages, Tilak repeated many of the issues already discussed in *Orion* (Tilak 1999) with some additional information about the growth of European interest into Vedic astronomy, the two camps of modern astronomy scholars found in Maharashtra and a brief description of the Nakṣatra system. The purpose of the book, as laid out in the 16-page 'Introduction', was to examine astronomical texts apart from *Sūrya Siddhānta* and ascertain the evolution of the calendar system developed since the Rigvedic times. However, the names

of the proposed chapters, listed at the end of the pamphlet, are not substantially different from the ones found in *Orion*.

5.7 Conclusion

Ancient Vedic texts represented a by-gone era. But having survived for thousands of years they embodied a spirit of continuity, not as sign of a ruin but signifying a vital present. Therefore, the very act of writing on Vedic texts within the colonial context was meant to arouse nationalist response destined towards the future. Tilak's appropriation of the Vedas and Dharmaśāstra texts brought him in direct confrontation with Hindu orthodoxy and Western modernity. He claimed that Vedic liturgy was neither frozen in time nor unalterable. Rather it represented a certain "the past of modernity" (Sawhney 2009: 14, italics in the original). For formulations helped Tilak in forging a grand narrative of a Hindu-Aryan Self.

One wonders what Tilak would have made of the massive excavations at Mohen-jo-daro and Harappa in 1922 and the discovery of the Indus Valley civilization, just two years after his death. Tilak intended to write a pre-Aryan history of India as noted in his prison notebooks. But just like his many other projects, this too, failed to begin. During the pre-Independence period *Orion* [1892] was reprinted twice [1916 and 1925] and *The Arctic Home* [1902] only once [1925] symbolizing their limited takers⁶⁰. Tilak's 'Arctic Hypothesis' was not fancied by the latter-day Hindutva ideologues such as V. D. Savarkar and M. S. Golwalkar. Savarkar's idea of Hindutva (1989) which was premised upon geographical affinity to India ('pitṛbhūmī' and 'puṇyabhūmī') helped him to distinguish the autochthonous Hindus from 'foreign invaders' (Muslims, Christians and Communists!). Consequently, Savarkar, who found Tilak's 'Arctic hypothesis' unpalatable (Bakhle 2010), relied on Pavgee's narrative of racial superiority (Deshpande 2015b). Golwalkar (1947), on the other hand, ingeniously appropriated Tilak's 'Arctic hypothesis' while remaining loyal to the core Hindutva-idea by arguing that Arctic Circle was non-stationary and had once existed in modern day Bihar!