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On the Role of the Lotus Leaf in South Asian Cosmography*

1. Introduction

As illustrated elsewhere (Kintaert 2010), the Indian lotus, *Nelumbo nucifera* subsp. *nucifera* Borsch & Barthlott, and different species of water lilies are frequently confused in secondary literature, despite their clear morphological differences.[1] When studying any aspect of the cultural history of the Indian lotus it is therefore essential to take into account botanical data. Both the previous and the present article attempt this with regard to the leaf of the Indian lotus.[2] Whereas the previous study focused on some secular uses of the lotus leaf, the present one is concerned with the lotus leaf's role in Vedic cosmogony and Epic-Purāṇic cosmography, dealt with in parts 2 and 3 respectively.[3] Based on a specific morphological feature of young lotus leaves a hypothesis is pro-

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[1] These differences are also stressed *inter alia* by Hanneder (2002, 2007).

[2] The following conventions are shared by both articles: (1) Whenever quoted text has also been found quoted, referred to or commented upon in secondary literature, an asterisk is prefixed to the latter's abbreviation. This is done even when the secondary source quotes from a different edition or cites only a part of the text. (2) Abbreviations of electronic sources are marked by a hyphen before the year of access (e.g., Huntington-2012). These abbreviations additionally afford a simple way of reaching the website they refer to. The URL created by appending the abbreviation to http://preview.tinyurl.com/ or http://tinyurl.com/ (e.g., http://tinyurl.com/Huntington-2012) automatically redirects the reader to the original URL. The latter is also provided in the references at the end of the article. — As a supplement to the article the website https://sites.google.com/site/jambudvipainfo (jambudvipa-2012) offers additional material and the opportunity for feedback.

[3] Since in each case the lotus leaf relates to the centre of a geocentric cosmological model, we will focus on geogony and geography respectively.

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posed in part 4 that, on the one hand, allows for a bridging of the seemingly disparate world views under consideration and, on the other hand, suggests a new explanation for the Epic-Purāṇic division of the earth into regions *(varṣa)*.

2. Vedic Cosmogony

2.1. A Lotus Leaf as Support of the Earth

The leaf of the Indian lotus *(puṣkaraparṇa)*[4] plays a significant role in some cosmogonic narratives that appear in works belonging to the Black Yajurveda. The Taittirīyasaṃhitā (TS) relates how Prajāpati, in the form of wind, swayed on a lotus leaf on the Primordial Ocean. On this leaf, which seems to be termed "the nest *(kulā́ya)* of the waters",[5] he piled up a fire, thereby turning the leaf into our stable earth *(iyám)*.[6]

TS 5.6.4.2-3:[7]

> *ā́po vā́ idám ágre salilám āsīt sá prajā́patiḥ puṣkaraparṇé vā́to bhūtò 'lelāyat sá | 2 | pratiṣṭhā́ṃ nā́vindata sá etád apā́ṃ kulā́yam apaśyat tásminn agním acinuta tád iyám abhavat táto vái sá prátyatiṣṭhat.*
>
> Waters were the world at first, the moving ocean; Prajāpati, becoming wind, rocked about on a lotus leaf; he could find no support; he saw that nest of the waters, on it he piled the fire, that became this (earth), then indeed did he find support.[8]

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[4] For further Sanskrit names of the Indian lotus and its leaf, see Kintaert 2010: 484 and 488, respectively.

[5] This interpretation is also considered by Krick (1982: 157, n. 408): "wenn man nicht überhaupt übersetzen sollte: 'Er betrachtete (dieses Lotosblatt als) Nest der Wasser (für den Agni-Vogel) ...'." Cf. also Kuiper (1983: 102): "What must have been meant by the expression 'nest of the waters' appears from those passages where the moist lairs *(ārdrā́ yónayaḥ)* of the Fire god are contrasted with those which 'have a nest' *(kulāyínīḥ)*. ... The word 'nest,' accordingly, seems to refer to a more solid state of aggregation (in the midst of the waters?)." The TS, however, identifies the nest of the waters, on which Prajāpati piled the fire, with Agni himself: *apā́ṃ vā́ agníḥ kulā́yam* (TS 5.6.4.5).

[6] On the recurrent theme of the stabilization of the earth, see, e.g., Kramrisch 1946: 12-14; Krick 1982: 160-162; Kuiper 1983: 102f., 107-109. Among primary sources, see TB 1.2.1.4 (*Syed 1990: 668) and ŚB 2.1.1.8 (*Nugteren 2005: 28, n. 57).

[7] *Basu 1966: 41; *Basu 1968: 63; *Bäumer 1976: 133; *Krick 1982: 148, 157; *Kuiper 1983: 102; *Syed 1990: 668; *Deshpande 2005: 90. Variants of this passage appear in KS 22.9 and KKS 35.3 (*Kuiper 1983: 102, n. 27 & 29). TĀ 1.23.1 (*Basu 1966: 41f.; *Syed 1990: 668) similarly mentions how Prajāpati, alone *(éka)*, came into being on a lotus leaf (floating) on the Primordial Ocean: *ā́po vā́ idám āsant salilám evá | sá prajā́patir ékaḥ puṣkaraparṇé sámabhavat |*.

[8] Translated in Keith 1914: 458.

The origin of this geogonic account has been traced by Basu (1966: 41; 1971: 31) to Ṛgveda (RV) 6.16.13ab[9] *(tvā́m agne púṣkarād ádhy átharvā níramanthata |)*, according to which the fire-god Agni had been rubbed out of a lotus *(púṣkara)*. Although only a lotus *flower* is mentioned here, Sāyaṇa (14th c.) glosses *púṣkarād ádhi* with *puṣkaraparṇe,*[10] thereby harmonizing the two accounts. Whether this indeed was the original meaning here is debatable,[11] even though we do have instances of the term *puṣkara* relating to a lotus leaf.[12]

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[9] *Basu 1966: 39-41; *Basu 1968: 63; *Basu 1971: 26, 31; *Bäumer 1976: 130; *Krick 1982: 155f.; *Garzilli 2003: 300f.; *Deshpande 2005: 90.

[10] Commentary *ad* RV 6.16.13 (ibid., p. 54,5; *Garzilli 2003: 301). Sāyaṇa (ibid., p. 54,8-10) substantiates his interpretation by quoting the TS, which, as a comment to the RV stanza, refers to another myth featuring a lotus leaf: *atra puṣkaraśabdena puṣkaraparṇam abhidhīyata iti | etac ca taittirīyake vispaṣṭam āmnātaṃ – 'tvām agne puṣkarād adhīty āha puṣkaraparṇe hy enam upaśritam avindat' iti* ‖ (cf. TS 5.1.4.4; *Bäumer 1976: 133). This perhaps alludes to the following myth recorded in ŚB 7.3.2.14: *agnír devébhya údakrāmat sò 'páḥ prā́viśat té devā́ḥ prajā́patim abruvaṃs tvám imám ánviccha sá túbhyaṃ svā́ya pitrá āvír bhaviṣyatíti tám áśvaḥ śukló bhūtvā́nvaicchat tám adbhyá upodā́srptaṃ puṣkaraparṇé viveda* ‖ "Agni went away from the gods; he entered the water. The gods said to Pragâpati, 'Go thou in search of him: to thee, his own father, he will reveal himself.' He became a white horse, and went in search of him. He found him on a lotus leaf, having crept forth from the water" (Eggeling 1894: 360). Krick (1982: 155f.) also points out that in the *agniciti* (i.e., *agnicayana*) ritual, the Adhvaryu priest recites RV 6.16.13 while placing the clay for the *ukhā* vessel on a lotus leaf (see TS 4.1.3.2; cf. Keith 1914: 292, n. 4, 293, *g*).

[11] Griffith has partly adopted this traditional interpretation, since, in translations of two instances of the RV stanza in the Vājasaneyisaṃhitā, he first renders *púṣkara* with "lotus" (Griffith 1987: 100 [11.32]), but the second time with "lotus-leaf" (ibid., p. 148 [15.22]). The meaning "lotus leaf" is also considered by Garzilli, who feels that "[f]rom the shape of the lotus leaf, which is big and concave like an uterus, it is easy to understand why the poetic vision of the RV composers might have thought of it as Agni's first seat, even though also the image of a lotus flower can fit that purpose" (2003: 301). At least with regard to the TS passage it should however be noted that, for reasons related to plant physiology (see Kintaert 2010: 489) and ritual practice (see p. 90), the primordial lotus leaf is most likely not a large, raised, funnel-shaped leaf, but rather a small, flat, floating one.

[12] In its chapter on drumming, the Nāṭyaśāstra (NŚ) narrates a mythological story about the origin of the three *mṛdaṅga* or *muraja* drums *(āliṅgya, ūrdhvaka* and *āṅkika;* cf. Ak 1.8.5ab: *mṛdaṅgā murajā bhedās tv aṅkyāliṅgyordhvakās trayaḥ)*, the *paṇava* drum and the *dardara* drum (NŚ 34.4-10 [*Martinez 2001: 176f.]). According to this story, the sage Svāti once observed in amazement how wind-swept raindrops falling on large, medium-sized and small (obviously aerial [see Kintaert 2010: 489f.]) lotus leaves produced different sounds. In analogy to this, and with the help of the divine craftsman Viśvakarman, he then proceeded to fashion the aforementioned drums. From this point on the text regularly refers to the three *mṛdaṅga* drums as the *puṣkara*s, *tripuṣkara* or *puṣkaratraya* (e.g., NŚ 34.9b, 24c, 27c, 278d, 285b). Ghosh, however, believes that the three *puṣkara*s refer to the *mṛdaṅga, paṇava* and *dardara* drums (1961: 163, n. 24), an interpretation that does not seem to be supported by the text. In any case, it is clear

In another geogony recounted in the TS, Prajāpati takes on the form of a boar:

TS 7.1.5.1:[13]

ắpo vắ idám ágre salilám āsīt tásmin prajắpatir vāyúr bhūtvắcarat sá imắm apaśyat tắṃ varāhó bhūtvắharat tắṃ viśvákarmā bhūtvắ vyàmārṭ sắprathata sắ pṛthivy àbhavat tát pṛthivyái pṛthivitvám.

This ... was in the beginning the waters, the ocean. In it Prajāpati becoming wind moved. He saw her, and becoming a boar he seized her. Her, becoming Viçvakarma, he wiped. She extended, she became the earth, and hence the earth is called the earth (lit. 'the extended').[14]

Whereas no lotus leaf is mentioned here, the Taittirīyabrāhmaṇa (TB) provides us with a creation myth that combines elements of both myths from the TS:

TB 1.1.3.5-7:[15]

ắpo vắ idám ágre salilám āsīt | téna prajắpatir aśrāmyat | 5 | kathám idáṁ syād íti | sò 'paśyat puṣkaraparṇáṃ tíṣṭhat | sò 'manyata | astí vái tát | yásminn idám adhitíṣṭhatīti | sá varāhó rūpáṃ kṛtvópanyàmajjat | sá

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that the NŚ traces back the masculine noun *puṣkara* as the name of these drums, as well as the drums themselves, to lotus leaves. This seems to be related to the wide variety of sounds that can be generated on the circular drum skins, in analogy to the different sounds the raindrops had produced on the various sized and equally circular lotus leaves (regarding the shape of lotus leaves, see Kintaert 210: 491f.). This great sound variety, produced by intricate playing techniques and expressed by drum-syllables *(akṣara)*, is indeed restricted to the *paṇava* (NŚ 34.69-84b), *dardara* (ibid., 84c-89) and *mṛdaṅga* drums (ibid., 42-47). Only the latter's drum skins can moreover be tuned to specific musical notes (ibid., 118-131). Other drums such as the *bherī* and the *paṭaha* on the other hand lack such a broad sound diversity and the playing techniques to produce it (ibid., 23-26). This seems to be the reason why, among drums (lit. "covered musical instruments" *[avanaddhātodya]*, i.e., membranophones), they are categorised as secondary members *(pratyaṅga)*, as opposed to the main members *(aṅga) mṛdaṅga*, *paṇava* and *dardara* (ibid., 15). The masculine noun *puṣkara* also denotes a drum or group of drums in MBh 5.153.27ab, 6.41.98ab, 104ab and 6.95.41cd, as well as in other works (cf. *PW* s.v. *puṣkara* [5 & 6]), but not necessarily (and in some cases definitely not) the same drums as in the NŚ. Since the NŚ ultimately derives the *puṣkara* drums from lotus leaves due to their drum skins sharing certain qualities with these leaves, it comes as no surprise that the neuter noun *puṣkara* is used in this work as one of the terms that denote the *mṛdaṅga*'s drum skins (e.g., NŚ 34.118d, 119b, 120a, 121ab, 268d and probably 41b). In the Ak it has come to refer indiscriminately to any drum skin (Ak 3.3.186ab: *puṣkaraṃ ... vādyabhāṇḍamukhe*). — As a designation for the bowl of a Vedic offering spoon, the term *puṣkara* might perhaps refer to a lotus leaf as well. See Kintaert 2010: 494f., n. 77.

[13] *Gonda 1954: 138f.; *Gail 1977: 129; *Krick 1982: 148.

[14] Translated in Keith 1914: 560.

[15] *Eggeling 1882: 280, n. 1.; *Gonda 1954: 138; *Basu 1966: 42; *Kuiper 1983: 103, n. 28; *Bäumer 1976: 130f.; *Krick 1982: 146-148; *Brereton 1987: 28a; *Deshpande 2005: 90.

pṛthivī́m adhá ārcchat | tásyā upahátyódamajjat | tát puṣkaraparṇè 'prathayat | yád áprathayat | 6 | *tát pṛthivyái pṛthivitvám* | … | *tā́ṃ śárkarābhir adṛṃhat* |

In this version of the myth, Prajāpati, assuming the shape of a wild boar, dived into the ocean in order to find the basis of the lotus leaf. After reaching the bottom of the ocean, he brought some of its soil to the surface and spread it out *(áprathayat)* on the leaf, thereby forming the earth (*pṛthivī́*, "the wide one"). In order to stabilize the still unsteady earth, he finally placed pebbles or gravel on it.

According to the Kaṭhasaṃhitā (KS), the amount of earth the boar brought to the surface was equivalent to the size of his snout *(múkha)*.[16] This might be compared to the statement from the Maitrāyaṇīsaṃhitā (MS) that, in the beginning, the size of the earth *(iyám)* was equal to the size of a boar's *caṣā́la*.[17] For this latter term as it appears in the MS passage *MW* provides the meaning "the snout of a hog". A closer look at the latter yields some further information. A boar's "elongated, extremely strong snout, ending abruptly as if truncated" is "reinforced by a flat disc containing the nostrils".[18] Krick and Dharmadhikari assume that a boar's *caṣāla* specifically denotes this disc.[19] Should this be correct, and provided the KS's *múkha* is equivalent to the MS's *caṣā́la*,[20] then both passages could be interpreted to refer not only to a mouthful of earth brought up by the boar to the surface ("ein Ebermaul voll" [see n. 17]) but to earth covering the disc of his muzzle due to his furrowing the bottom of the ocean.[21]

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[16] KS 8.2 (: 84,14-15) (*Krick 1982: 152): *ápo vā́ idám āsan salilám evá sá prajā́patir varāhó bhūtvópanyàmajjat tásya yā́van múkham ā́sīt tā́vatīṃ mṛ́dam údaharat séyám abhavat*. Cf. also ŚB 14.1.2.11 (*Gonda 1954: 138; *Gail 1977: 129; *Krick 1982: 154), which states that the earth, to be dug out by the boar Emūṣa, originally measured a span *(prādeśamātrī́)*.

[17] MS 1.6.3: 90,4 (*Krick 1982: 149): *yā́vad vái varāhásya caṣā́laṃ tā́vatīyám ágra āsīt*. In this passage, however, no mention is made of the primordial boar's geogonic act. Cf. Krick 1982: 149: "Es fehlt hier die Beziehung auf die Erdschöpfung, durch die dieses erste Größenmaß der Erde – ein Ebermaul voll – erklärt werden würde."

[18] van der Geer 2008: 395. This disc is often clearly discernible in sculptural representations of boar or boar-headed deities (cf. ibid., p. 400, 402-404, 408-410 and, e.g., fig. 487, 489, 493, 495, 507) and can be clearly seen in fig. 1.

[19] Krick 1982: 149: "'So groß wie die Rüsselscheibe eines Ebers war diese (Erde) am Anfang. …'"; Dharmadhikari 1989: 69: "Caṣāla (which may primarily mean the fleshy ring seen at the end of boar's mouth. Vide MS I. 6.3 ... .)."

[20] Alternatively, the term *caṣāla*, denoting the disc of a boar's snout, might also be used in the MS to refer, *pars pro toto*, to the whole snout. Cf. Krick's interpretation of this passage in n. 17.

[21] Whether the observation of the similarity in shape and size of a floating lotus leaf and the disc of a boar's snout had anything to do with the above specifications regarding

The late Vedic creation myth presented above is partly re-enacted in Vedic ritual.[22] As part of the *agnicayana* rites, for instance, a (most likely flat, i.e., originally floating) lotus leaf *(puṣkaraparṇa)*[23] is laid down centrally underneath the first layer of bricks of the future "higher altar" *(uttaravedi)*, as a symbol of the earth (cf. Krick 1982: 157; Staal 1983: 410). A golden disc *(rukma)* with twenty-one knobs, which represents the sun with twenty-one rays (cf. ŚB 7.4.1.10), is later on placed on the leaf.[24] Considering the prominent role of the number twenty-one in Vedic mythology and ritual and its association with Prajāpati,[25] it will hardly have escaped the notice of the ritual practitioners that the twenty-one "rays" of the *rukma* placed on the lotus leaf

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the original size of the earth is questionable, especially since no lotus leaf is mentioned in either place. – The term *caṣāla* also designates a specific piece of wood or some other material, which is mostly prescribed to be placed over the top of a Vedic sacrificial pole *(yūpa)*. If the two *caṣāla*s were supposed to have some resemblance, then this still would not provide any clue as to the exact meaning of the *caṣāla* of the geogonic boar, since the descriptions of the *yūpa*'s *caṣāla* can fit both interpretations. Cf., on the one hand, Dharmadhikari 1989: 71 and the entry "*caṣāla*" in Renou 1954: 66, Sen 1978: 66b, Mylius 1995: 68 and Ranade 2006: 179, which describe a wooden and (like the *yūpa* itself) octagonal *caṣāla* that is contracted in the middle, hollow, and a span in size, and as such can be considered to remotely resemble a boar's snout (cf. also the photograph of such a *caṣāla* in Ranade 2006: 179a). On the other hand, cf. the references to a ring-, wheel- or wreath-shaped *caṣāla*, which would rather remind one of the disc of a boar's snout. E.g., Ak 2.7.18c *(caṣālo yūpakaṭakaḥ)*, which equates the *caṣāla* with the *yūpa*'s ring *(kaṭaka)* and, s.v. "*caṣāla*", Apte ("1 A wooden ring on the top of a sacrificial post. – 2 An iron ring at the base of the post."), Renou 1954: 66 ("[2] wheel of flour on top") and Mylius 1995: 68 ("kranzartiger Holzaufsatz").

[22] Cf. Krick 1982: 114f., 145-162, 169; Staal 1983: 395, 410f.

[23] There can hardly be any doubt that *puṣkara* ultimately came to denote the flower of the Indian lotus. This is also assumed, e.g., by Rau (1954: 510, 512) and Hanneder (2002: 300) and can for instance be inferred from its use as the seat or pedestal of deities, as well as from the highly water-repellent quality of its leaves, neither of which apply to water lilies. The Vedic *puṣkara* is generally believed to refer to the flower of the same plant. The *puṣkaraparṇa* used in modern performances of the *agnicayana* is indeed a lotus leaf, as confirmed by T.P. Mahadevan and Sarath Haridasan (personal communications through e-mail, dated December 5th, 2009), and consequently does not possess a radial cleft, which is a characteristic feature of the leaves of most species of water lilies (see Kintaert 2010: 491). However, the mention in the Mānavaśrautasūtra, referred to by Tsuji (1983: 139f., 153), of a *puṣkaraparṇa* that is once laid down with its opening towards the east (MāŚS 6.1.1.25: *prāgdvāraṃ puṣkaraparṇam*) and another time with its opening towards the west (ibid.: 6.6.7.1: *puṣkaraparṇaṃ pratyagdvāram*) seems to refer to the cleavage of a water lily leaf. This discrepancy calls for a more thorough investigation, which however cannot be conducted here.

[24] Krick 1982: 158 (cf. also ibid., p. 169, n. 428); Tsuji 1983: 153. Staal reports that the *rukma* is placed to the north of the lotus leaf (1983: 411).

[25] Cf. Krick 1982: 137f., n. 356, 148, n. 382, 162; Gonda 1987: 539-545, 559f.

find a close equivalent in the number of main veins radiating from the leaf's centre.[26]

2.2. The Diving Boar

The reason Prajāpati assumes the appearance of a wild boar before diving to the bottom of the ocean merits an explanation. To begin with, the Indian Wild Boar (*Sus scrofa cristatus* Wagner), a subspecies of the Eurasian wild boar (*Sus scrofa* L.), is well accustomed to water, which it frequents for the purpose of wallowing in, especially in hot weather.[27] Moreover, since wild boar are excellent swimmers, they can easily cross rivers and canals, as well as greater bodies of water, as for instance lakes.[28] Wild boar are even known to cross over to offshore islands in different parts of the world.[29] Furthermore, Indian boar, just like domesticated pigs, are fond of roots and tubers,[30] including the thickened lotus rhizomes *(bisa, śālŭka)*[31] they dig up with their strong and flexible

[26] Cf. Wigand – Dennert 1888: 8: "Das Blatt hat 20 an der Anheftungsstelle des Stiehls strahlig entspringende Hauptadern." The lotus leaves that I have examined had between seventeen and twenty-five main veins, most frequently however twenty or twenty-two. For a photograph of a lotus leaf with twenty-one main veins, see SuperStock-2012.

[27] Cf. Mil 397,22-26: *yathā mahārāja varāho santattakaṭhite gimhasamaye sampatte udakaṃ upagacchati, evam eva kho mahārāja yoginā yogāvacarena dosena citte āluḷitakhalitavibbhantasantatte sītalāmatapaṇītamettābhāvanaṃ upagantabbaṃ.* "Just, O king, as the boar, in the sultry and scorching weather of the hot season, resorts to the water; just so, O king, should the strenuous Bhikshu, earnest in effort, when his heart is distracted and ready to fall, all in a whirl, inflamed by anger, resort to the cool, ambrosial, sweet water of the meditation on love" (Rhys Davids 1894: 334). Cf. also BrP 1.5.10-11 (*Prasad 1983: 76), which relates how Brahman (here equated with Nārāyaṇa), in order to raise the sunken earth, decided to adopt the form of a boar *(vārāhaṃ rūpam)* since it is suitable for playing in water *(jalakrīḍāsamucita)*. Cf. also KūP 6.7-8b (*ibid.).

[28] Leaper et al. 1999: 251; Rowley-Conwy – Dobney 2007: 134; Rosvold – Andersen 2008: 14. For videos demonstrating the remarkable swimming skills of wild boar, see mailliw31000-2012 and virgokungen-2012.

[29] This has for instance been observed in northern Europe (Rosvold – Andersen 2008: 14), the Mediterranean region (Hongo et al. 2007: 128; Masseti 2007: 160f.; Mouchon-2012), Indonesia and the Philippines (Masseti 2007: 160) and Japan (Hongo et al. 2007: 128). Cf. also Castles-2012.

[30] Cf. NŚ 22.133d, which characterizes a woman of the pig type (*saukaraṃ sattvam āśritā* [134d]) as being "fond of tubers, roots and fruits" *(kandamūlaphalapriyā)*. The other distinguishing features of such a woman (see ibid., 133-134) can be applied to pigs as well.

[31] Cf. Kād 78,9 (*Syed 1990: 615): °*vanavarāhadaṃṣṭrāntarālalagnaśālūka*° ("lotus rhizomes, stuck between the wild boar's tusks"); Vś 1.43c (p. 45,1): *mithyālīḍhamṛṇālakoṭir abhasād daṃṣṭrāṅkuraṃ śūkaraḥ* "In hunger vain for lotus-fibers soft the boar doth lick his tusks" (Gray 1906: 27). The term *bisakhā́* ("digging up lotus rhizomes") of RV 6.61.2a

snout (cf. van der Geer 2008: 395). Thus boar diving for nutritious lotus rhizomes may well have been a familiar sight, and the idea that Prajāpati took the form of one to accomplish his geogonic act is consequently quite suitable.[32]

In the Epic-Purāṇic literature Prajāpati's role of raising the earth to the surface of the ocean in the shape of a boar is assumed by Brahman or Viṣṇu-Nārāyaṇa.[33] In these later texts, however, this act does not initiate a primary creation *(prākṛtasarga)* but rather the secondary creation *(pratisarga)* at the beginning of the present Varāha aeon (Vārāhakalpa).[34] What is more, the divine boar now creates the earth directly on the water surface, apparently without using a lotus leaf as a support.[35] Should the relation between wild boar and lotus referred to above have been decisive in shaping this specific geogonic myth,[36] then it would appear that this connection had been forgotten at this later stage.

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has been interpreted to refer to a boar as well (Scarlata 1999: 98; I am grateful to Prof. Chlodwig H. Werba for pointing out this reference). Regarding Sanskrit terms for "lotus rhizome", see Meulenbeld 1974: 482f.

[32] Elephants are equally known to feed on lotuses and lotus rhizomes and even appear doing this more frequently in South Asian literature and art. Cf., e.g., Ragh 16.16ab (*Syed 1990: 657): *citradvipāḥ padmavanāvatīrṇāḥ kareṇubhir dattamṛṇālabhaṅgāḥ* / "The elephants (painted) in the pictures (on the walls) as entered into lotus-beds and as being presented with pieces of lotus-stalks by female elephants" (Nandargikar 1897: 500). However, since an elephant would typically uproot an entire leaf or flower with its trunk, it would hardly qualify as a creator of the world. Cf. Ragh 16.68cd (*Syed 1990: 657): *skandhāvalagnoddhṛtapadminīkaḥ kareṇubhir vanya iva dvipendraḥ* // "as a huge wild elephant with an up-rooted lotus-plant clung to the shoulder sports with female elephants in water" (Nandargikar 1897: 519); Huntington-2012.

[33] See Gonda 1954: 140; Gail 1977: 130ff.; Prasad 1983: 77; Basu 2002: 25f.

[34] Gail 1977: 131, 138, 144. For further differences between the two mythologies, see ibid., *passim*.

[35] The same applies to TS 7.1.5.1 (see p. 88) as well as to TĀ 10.1.8, which states that the earth had been raised by a black boar with a hundred arms (*Gonda 1954: 138; *Gail 1977: 129). It is unclear whether a primordial lotus leaf is simply not part of any of these myths or whether the existence of such a lotus leaf is presupposed.

[36] If so, then the starting point could either have been the floating lotus leaf, whose circular shape presents itself as an ideal support for the round earth, or the cosmogonic boar, which, as Kuiper states, "may even be historically identical with the *varāza* of the *Avesta*, and thus have its origin in the common Indo-Iranian mythology" (1983: 101). It is also conceivable that two originally independent creation myths, one figuring a divine boar, the other a lotus, were eventually merged. This might have been caused or at least eased by the fact that lotus rhizomes are part of an Indian Wild Boar's diet.

2.3. Interpretation

It is not difficult to imagine how a floating lotus leaf could have come to represent the basis of the earth. The pre-creation chaos of most cosmological traditions has been explained as a kind of potential universe, a non-creation and indifferentiation (cf. Frédéric n.d.: 22), which has often been conceived of as the Primordial Waters.[37] It is therefore understandable that an aquatic plant would be chosen to represent the first creation out of these Waters.[38] However, since the creation of the lotus leaf itself is not mentioned in the cosmogonic narratives cited above, it makes sense to consider the lotus leaf, "rising out of the mud and the waters, ... a mediating symbol, bridging the amorphous waters and the created earth" (Brereton 1987: 28a). This intermediate state of the floating lotus leaf, half-way between non-creation and creation, is in a way reflected by its flat surface merging with the surface of the Primordial Ocean.

The lotus leaf's morphology is also significant for a more obvious reason. In the Brāhmaṇas the earth was considered to be round[39] and sur-

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[37] Cf. RV 10.129.3b (*Gombrich 1975: 114f.): *apraketáṁ salilám sárvam ā idám* / "all dieses war unkenntliche Flut" (Geldner 1951: 360); Coomaraswamy 1977: 171: "In all traditions 'the waters' stand for universal possibility."

[38] The choice of a lotus leaf instead of a lotus flower is furthermore logical from a botanical perspective, since a lotus flower can only grow after the plant has produced several leaves. — Incidentally, it may be pointed out that the genus *Nelumbo* is sometimes considered not to be a real aquatic. Arber believes that it is "rather a marsh plant than a true aquatic. Possibly it is a genus descended from aquatic ancestors, which has reverted in some degree towards a terrestrial life" (1968: 39). Gupta et al., on the other hand, argue in favour of a terrestrial origin: "Haberlandt (1914) maintained that stomata in aquatic plants, although modified, reflect an ancestral relationship with terrestrial plants. ... under local conditions *Nelumbo* is not a true aquatic plant because in summer when ponds dry up the underground rhizome continues to grow in the moist soil. Later, when the soil is still apparently dry, even aerial leaves, which possess stomata on both the surfaces, develop. ... in the same taxon one finds various stages of transformation from terrestrial to aquatic habit" (1968: 300b).

[39] See, e.g., ŚB 6.7.1.26 (*Kirfel 1920: 10*, 9): *parimaṇḍaláu hīmáu lokáu* "These two worlds (i.e., heaven and earth; T.K.) are round" (Eggeling 1894: 271); ŚB 7.1.1.37: *parimaṇḍalá u vā́ ayáṃ lokáḥ* (*Kirfel 1920: 10*, 9; *Kramrisch 1946: 17, n. 44). Cf. Kramrisch ibid.: "The earth is ... called 'caturbhṛṣṭi', four cornered (RV. X. 58. 3) and is symbolically shown as Pṛthivī-maṇḍala, whereas considered in itself, the shape of the earth is circular, RV. X. 89. 4 ; Ś.B. VII. 1. 1. 37"; RV 10.89.4cd (*ibid.): *yó ákṣeṇeva cakríyā śácībhir víṣvak tastámbha pṛthivī́m utá dyā́m* // "[Indra,] der mit Kunst Himmel und Erde wie die Räder durch die Achse auseinandergestemmt hat" (Geldner 1951: 284). Cf. also Kramrisch ibid., p. 23: "Of the two altars on the east-west line, the one at its eastern end is square, the other at its western end is circular. ... The circular one, the Gārhapatya hearth, denotes this terrestrial world."

rounded by ocean on all sides.[40] The floating, round and entire leaf of the Indian lotus[41] must consequently have presented itself as an ideal basis for the earth. The fact that the lotus only grows in freshwater, whereas the world is surrounded by a saline ocean, was obviously not considered problematic. It is rather likely that the position of the lotus leaf on the water surface, as well as the leaf's round shape, was decisive for its incorporation in the geogonic myth.

3. Epic-Purāṇic Cosmography

3.1. The World Lotus

Proceeding to the cosmographic accounts of the Epics and Purāṇas, we find that the Vedic lotus leaf has been replaced by a lotus flower (see fig. 2[42]).[43] This World Lotus *(bhūpadma, lokapadma, pṛthivīkamala)* is identical to the central circular continent Jambūdvīpa[44] or Black Plum Island (cf. Wujastyk 2004). The floral receptacle *(karṇikā)* of this lotus flower (see fig. 8) is equivalent to the obconical World Mountain Meru or Mahāmeru (also called Karṇikācala or Receptacle Mountain), whereas its stamens correspond to a series of smaller mountains surrounding Meru,[45] the so-called Stamen Mountains (Kesarācala). The World Lotus furthermore has four petals that coincide with the four world regions *(varṣa)* Bhārata, Ketumāla, Uttarakuru and Bhadrāśva, situated in the

[40] See the textual references given in Kirfel 1920: 10*f., 9f.

[41] Entire, i.e., with a smooth margin without any indentations, as opposed to the leaf of most water lily species, which features a radial cleft. See n. 23.

[42] The drawing of the "Worldly Lotos" includes Wilford's own identifications. See, e.g., Siberia in the uppermost, and Britain in the upper left petal.

[43] The following information has mostly been extracted from Kirfel 1920: 54-127. — In Vaiṣṇava mythology this lotus flower emerges from the navel of Nārāyaṇa, while the latter reclines on the giant serpent Ananta/Śeṣa floating on the Primordial Waters (see, e.g., Couture 2004: 73-75).

[44] Also designated Jambudvīpa and, in the Mahābhārata and the Padmapurāṇa, Sudarśana (Kirfel 1920: 57; Hilgenberg 1933: XIIf.). In the Purāṇic *saptadvīpa* scheme of our universe, Jambūdvīpa is surrounded by six annular island continents, separated from each other by six oceans, each of which consists of a different fluid (cf. fig. 5). All these concentric islands and oceans are contained within the eggshell *(aṇḍakaṭaha)* of a so-called Brahman-Egg *(brahmāṇḍa)*, thousands of millions of which are imagined to float in endless space. See Kirfel 1920: 55ff.

[45] Between twenty and more than sixty mountains are enumerated in different Purāṇas. See Kirfel 1920: 95-99, 100-104; Kirfel 1954: 10 (22-25), 13 (36), 92 (22.20c-23).

south, west, north and east of Meru, respectively.[46] It has been argued that this layout of the world is ultimately derived from the Vedic conception of a world with four rivers flowing from its centre to the four cardinal directions, which gives rise to four world regions.[47] The geography described in early Buddhist sources provides a more definite precursor of the later World Lotus. The Pāli Canon (mainly the Aṅguttaranikāya) mentions the following four continents extending in the cardinal directions around Neru (Skt. Meru) or Sineru (Skt. Sumeru), clockwise from the east: Pubbavideha (Skt. Pūrvavideha), Jambūdīpa (Skt. Jambūdvīpa) or Jambusaṇḍa (perhaps Skt. Jambukhaṇḍa), Aparagoyāna (Skt. Aparagodāna) and Uttarakuru (Skt. id.) (Kirfel 1920: 183). In later Buddhist works (e.g., the Pāli Jātakas, the Mahāvastu, etc.), which insert seven ring-shaped mountains and oceans between Meru and these continents,[48] the latter are now all termed *dvīpa* (island), a term previously restricted to the southern continent.[49] An intermediate stage between this later Buddhist world model and the Purāṇic *bhūpadma* seems to be recorded in MBh 6.6.12, which still calls the four continents "islands" *(dvīpa)*,[50] but now names the eastern and western island "Bhadrāśva" and "Ketumāla" respectively, thereby anticipating the names of the respective petals of the World Lotus.[51]

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[46] The cardinal directions are here defined in relation to the centre of the world, which is occupied by Meru. With the North Star (Dhruva) situated straight above Meru and all heavenly bodies revolving around the axis Meru–Dhruva (see Kirfel 1920: 15*, 129f., 142, etc.; Kirfel 1954: 76.24cff., 259.5ff., etc.), it is clear that Meru is a visual representation of the world pillar, the *axis mundi*. When the medieval astronomers, probably influenced by Greek astronomy (Kirfel 1920: 4*f.), adopted the belief in a globe-shaped earth *(bhūgola)*, they therefore placed Meru at the Geographic North Pole (ibid., p. 173). However, due to the (near-)spherical shape of the earth, all regions surrounding the North Pole are in fact situated to its south. Cf. Van Duzer 2006: 4: "of course there is no north, east, or west at the North Pole: every direction from this center is south."

[47] See Lüders 1951: 288-293, rendered in English in Kapadia 1961: 215-220. Here, the four continents would however be situated in the intermediate directions.

[48] See Kirfel 1920: 185-188. Sircar believes that the seven concentric island-continents of Brahmanical cosmography "may be an elaboration of the Buddhist idea about the existence of seven concentric rocky belts" (1967: 48). Cf. also ibid., p. 39.

[49] The names of these islands have mostly remained identical to those of the older group of four continents, i.e., again clockwise from the east: Pūrvavideha, Jambūdvīpa, Aparagodāna (also Aparagodānīya and Aparagodānīka) and Uttarakuru (Kirfel 1920: 185, 188).

[50] This has been explained in Nīlakaṇṭha's commentary as referring to land separated by rivers. See Kirfel 1920: 18*, 93; Hilgenberg 1933: XIV. Cf. also Sircar 1967: 37, n. 8.

[51] MBh 6.7.11: *tasya* (i.e., *meroḥ*) *pārśve tv ime dvīpāś catvāraḥ saṃsthitāḥ prabho / bhadrāśvaḥ ketumālaś ca jambūdvīpaś* (v.l.: *jambūdvīpe!*) *ca bhārata / uttarāś caiva kuravaḥ kṛtapuṇyapratiśrayāḥ //* (*Kirfel 1920: 18*, 93; *Hilgenberg 1933: XIII-XIV, 5). Kirfel

Although the above sources do not associate the four continents or islands with the four petals of a lotus, the affinity of these schemes with the Purāṇic *bhūpadma* is obvious.[52] The Purāṇic world model even preserves a trace of the earlier four-*dvīpa* model, since Jambūdvīpa is said to be named after the gigantic Jambū or Jambu tree (*Eugenia jambolana* Lam.; cf. Wujastyk 2004) growing south of Meru, i.e., in the same direction as the Jambū island of the preceding cosmographies. The Vāyupurāṇa, moreover, still calls the petals *(pattra)* of the World Lotus in two places "large islands" *(mahādvīpa)* and accordingly characterizes the earth as "being endowed with four large islands" *(caturmahādvīpavatī)*.[53]

One of the virtues of the image of a World Lotus is its receptacle, which marvellously fulfills the role of an axial World Mountain. This image moreover made it easy to incorporate the existing concept of four world regions or islands, situated in the four cardinal directions, by transforming them into four lotus petals. One is here also reminded of Maitrāyaṇīyopaniṣad 6.2, which identifies the lotus flower with space *(ākāśa)* and its petals with the four cardinal and four intermediate directions.[54]

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believes that these so-called islands are in fact four parts of the central world region Ilāvṛta (see p. 97), surrounding Meru (1920: 93). He substantiates his view by mentioning that in Jaina cosmography, Uttarakuru is equally situated in the earth's central region, north of Meru, and by referring to Nīlakaṇṭha's commentary (ibid.; cf. n. 50). The Purāṇic accounts, however, do not expressly state this. — It should be noted that in the MBh passage cited above, the southern island is still called Jambūdvīpa. Only after the image of a World Lotus has been adopted does Jambūdvīpa come to denote this whole world, and the southern petal-*varṣa* is named "Bhārata". The latter name was thereafter used to refer to (part of) the Indian subcontinent and was eventually officially adopted as an alternative name for India (see GoI-2012: 2, article 1(1): "India, that is Bharat, shall be a Union of States."). Note that the Tibetan equivalent of "Jambūdvīpa", i.e., 'Dzam bu liṅ, besides denoting the southern island-continent, is also used (and still is in colloquial Tibetan) to refer to the whole world. Cf. Jäschke 1881: 461ab; Das 1902: 1048a.

[52] Cf. for instance their partly shared nomenclature.

[53] Lüders 1951: 290f., rendered in English in Kapadia 1961: 217-219.

[54] MaiU 6.2 (*Coomaraswamy 1935: 18; *Morenz – Schubert 1954: 104; *Coomaraswamy 1977: 173, n. 36; *Brereton 1987: 28b): *idaṃ vāva tat puṣkaraṃ yo 'yam ākāśaḥ | asyemāś catasro diśaś catasra upadiśo dalasaṃsthāḥ |*. — Krishnadasa provides a different interpretation of the World Lotus. His attempt to show a correspondence between its receptacle and petals on the one hand, and topographical features of Central Asia and surrounding regions on the other, e.g., the equation of Meru with the Pamir Mountains, however appears unconvincing (see Krishnadasa 1960: illustration opposite p. 202). Similar identifications are proposed by Singh (1972: 2, with n. 24).

On the downside of this botanical image is the fact that lotus flowers are always lifted high above the water surface (see Kintaert 2010: 487), whereas Jambūdvīpa is level with the surrounding ocean.[55] The cupped petals of a lotus flower moreover seem hardly suited to represent continents. Yet all these drawbacks of a world shaped like a lotus flower obviously did not outweigh its merits.

3.2. Jambūdvīpa's Dividing Mountain Ranges *(varṣaparvata)*

We have seen above that Jambūdvīpa, shaped like a lotus flower, has four main regions *(varṣa)* that correspond to four of its petals. However, when considering more detailed descriptions of Jambūdvīpa's topography, we obtain a different picture. Although the obconical Mount Meru still dominates the landscape, the layout of the island-continent is now governed by eight mountain chains that divide Jambūdvīpa into nine regions *(varṣa)* (see fig. 3[56] and 4[57]). Six mountain ranges, called *varṣaparvata,* run from east to west, thereby creating seven elongated *varṣa*s,[58] of which the southernmost, Bhāratavarṣa, roughly corresponds to South Asia, bounded by the Himālaya range (Himavat) to the north. The central *varṣa* Ilāvṛta is for its part divided into the three *varṣa*s Bhadrāśva (east), Ilāvṛta (centre, dominated by Mount Meru) and Ketumāla (west) by two mountain ranges that run from north to south between the Nīla and Niṣadha ranges, i.e., Mālyavat to the east and Gandhamādana to the west of Meru.[59] Apart from the fact that these latter mountain ranges run at a right angle to the *varṣaparvata*s, that they are much

[55] Regarding the salinity of this ocean, see p. 94. Incidentally, it may be noted that the outermost annular island-continent, the "lotus flower island" *(puṣkaradvīpa)*, is surrounded by a fresh-water ocean *(svādūdaka)*. See Kirfel 1920: 126; Kirfel 1954: 34 (52cd), 167 (97ab), 170 (108ab), 174 (128).

[56] Reproduced in Kirfel 1920: Tafel 1; Haussig 1984: Tafel XII, Abb. 18 opposite p. 205 (description p. 28).

[57] In fig. 2-4 the north is placed at the top, as is commonly done in modern maps. Although this orientation allows for an easier labelling of the individual *varṣa*s and *varṣaparvata*s (cf. fig. 3), a traditional map would be oriented towards the east, i.e., with the east at the bottom (as with *maṇḍala*s) or at the top of the map. An example of the latter is provided in Thompson 2007: 36 ("Figure 2.10. This diagram of Jambūdvīpa shows the Deities worshiped in different *varṣa*s, nearly according to the *Bhāgavatam*. It is copied from a painting on the wall of the compound of the Kutalmanika temple in Kerala.").

[58] Table 1 (p. 111), gives the names of these mountain ranges and world regions according to different textual sources and highlights major differences between them.

[59] The situation of Ketumāla to the east and Bhadrāśva to the west of Ilāvṛta in fig. 3 does not reflect the prevailing arrangement.

shorter than the latter and, according to most Purāṇic sources, only half as broad,[60] there is a further indication that points to their secondary nature. In several enumerations of the *varṣaparvata*s and of the *varṣa*s marked off by them only the six ranges running from east to west and the seven bordering *varṣa*s are mentioned.[61] The two north–south running mountain ranges or the two new *varṣa*s they create are, if at all, referred to separately (e.g., NŚ 13.28-32). Thus the division of Jambūdvīpa into seven *varṣa*s appears to be older than the one into nine, a view shared by Sircar.[62]

4. Conclusions and Hypothesis

4.1. The Incongruity of Jambūdvīpa's Two Layouts

It will be clear by now that the descriptions of Jambūdvīpa as a lotus flower with four petal-shaped *varṣa*s (fig. 2) and of its division into world regions by means of six or eight mountain chains (fig. 3 and 4) fit only imperfectly. The division into seven or nine *varṣa*s creates a layout of Jambūdvīpa in which the reflective symmetries around its north–south and east–west axes differ, unlike the image of the World Lotus with its four *varṣa* petals situated in the cardinal directions. The northern and southern petals moreover partly cover the pairs of elongated *varṣa*s lying to the immediate north and south of Ilāvṛta respectively. The two schemes, therefore, are largely incongruous.[63] This suggests that they originally belonged to two separate traditions, which were merged at a later date.

Whereas previous stages of the four-*varṣa* model can be identified with a fair degree of probability (see p. 95f.), no consensus has been reached so far as to the origin of the seven- or nine-*varṣa* model. Attempts have

[60] I.e., 1,000 vs. 2,000 *yojana*s (Kirfel 1920: 93). According to the Bhāgavata- and Devībhāgavatapurāṇa, however, they equally have a breadth of 2,000 *yojana*s (ibid.).

[61] See Sircar 1967: 52, n. 54. Cf. also NŚ 13.21, 28-32.

[62] Sircar 1967: 52: "To these seven, two other *varṣa*s of a longitudinal character (Bhadrāśva to the east and Ketumāla to the west of the Ilāvṛta division around the Meru mountain) appear to have been added later to make the number nine." See also the references given ibid., n. 54. — The Purāṇic sources mention a large number of additional mountains, of which the highest ones are situated between the Nīla and Niṣadha ranges in the four cardinal directions around Meru, i.e., four "supporting" or "buttress mountains" *(viṣkambhaparvata)* (see Kirfel 1920: 93; Kirfel 1954: 8 [11-13b], 91 [22.5c-22.8b], 100 [47.1]; Sircar 1967: 45f.), and, depending on the text, four or eight mountain ranges called "boundary mountains" *(maryādāparvata)* (see Kirfel 1920: 104f.; Kirfel 1954: 12f. [33-36b], 91 [22.1-22.5b]; Sircar 1967: 46).

[63] Cf., e.g., Krishnadasa 1960: 202, 205; Sircar 1967: 36-38; Singh – Khan 1999: 271a.

been made to identify Jambūdvīpa's dividing mountain chains with factual topography,[64] none of which, to my knowledge, have attained wider acceptance. One might also conjecture that the known features of the world, i.e., a vast territory (Bhāratavarṣa) delimited by an imposing mountain chain to the north (Himavat), were projected onto the remaining, largely unknown part of Jambūdvīpa. However, an altogether different explanation is proposed here, which relates to the leaf of the Indian lotus.

4.2. Lotus Leaf Lineation

It has been pointed out elsewhere that the veins of the lotus leaf do not exhibit perfect rotational symmetry.[65] Instead, the presence of a median vein imparts an axial layout to the leaf. This is related to the specific way the leaf is folded in the bud, which, in botanical morphological terminology, is called the leaf's vernation or ptyxis. The lotus leaf's vernation is involute, which means that two opposite margins, parallel to the primary vein, are initially rolled inwards,[66] as can be seen in fig. 6. Probably as a result of the process of unfolding, which takes place over a period of a few days, a pattern of reddish or purplish slightly concave lines appears on some of the freshly unrolled floating leaves (see fig. 7.1-4), which fades after some days and eventually disappears.[67] The

[64] See, e.g., Ali 1966: fig. 6 after p. 64 (*Thompson 2007: 123 [see especially fig. 5.1]); Thompson 2007: 39f.: "we may … be dealing with independent traditions making use of the same set of names for islands and continents. We can distinguish between the two maps of Jambūdvīpa on purely functional grounds. In relation to actual earthly geography, the four-continent map simply assigns names to lands in the four cardinal directions around Mount Meru (which lies somewhere to the north of India). In contrast, the map in Figure 2.9 (which shows Jambūdvīpa's nine *varṣa*s; T.K.) gives a more detailed picture of the mountain ranges and valleys in this part of south-central Asia … . This may explain how these two systems could coexist in the same text."

[65] Kintaert 2010: 491, n. 65. See also ibid., p. 492, n. 67.

[66] Stearn 1992: 332f.; Wagenitz 2003: 344f.

[67] On fifteen visits to the lotus pond of the University of Vienna's Botanical Garden, spread over six summers, I came across about half a dozen lotus leaves that featured such clear lines. More often, however, the lines were fainter. Whether they appeared this way from the beginning or had already faded is unclear. None of the larger, aerial leaves exhibited such coloured lines. They did, however, regularly show thin, colourless lines, sometimes even four on each side of the primary vein. This might indicate that the colouring only appears when the leaf is in contact with the water while it unfolds. The presence of more than three lines on either side of the median vein might furthermore point to a correlation between the number of lines and the number of days the unfolding requires, since the latter is presumably higher in the case of larger leaves. These assumptions, however, still need verification.

resemblance of these leaves with their six coloured lines to the layout of Jambūdvīpa with its six *varṣaparvata*s is striking. The circular shape of a floating lotus leaf also conforms better to the equally circular shape of Jambūdvīpa than the outline of a lotus blossom does.[68] Indeed, Bhāgavatapurāṇa (BhāP) 5.16.5 states that Jambūdvīpa is "as round as a lotus leaf" *(samavartulo yathā puṣkarapattram)*. This specification, as well as the arrangement of the *varṣaparvata*s, could have their origin in the lotus leaf's role in the late Vedic geogonic myths described earlier.[69]

4.3. A New Hypothesis Regarding the Composite Layout of Epic-Purāṇic Jambūdvīpa

The above observations lead me to the following hypothesis: Due to its axial shape, the floral receptacle *(karṇikā)* of the lotus flower provided an ideal model of the *axis mundi*. As a result, and perhaps influenced by the cosmological role of lotus flower and lotus leaf in the Vedic tradition,[70] the world was conceived in the shape of a gigantic lotus flower with its *karṇikā* representing the axial World Mountain Meru. This World Lotus had four continents in the cardinal directions that corresponded to four lotus petals, possibly influenced by early Buddhist cosmography (see p. 95). However, in another cosmographic scheme a floating lotus leaf supplied the basis for the world, which, besides having the bonus of representing a floating entity, had the advantage of tracing the outline of the Himālaya range with one of its coloured lines.[71] Possibly due to the virtues of both cosmographies – one providing for Mount Meru, the other for the known Himālaya range – or perhaps simply as a result of the South Asian tendency to assimilate ideas rather than to

[68] Cf., e.g., Kirfel 1920: 57; Kirfel 1954: 89 (11ab).

[69] The adoption of a seemingly minor botanical characteristic such as the coloured lines of a lotus leaf into South Asian cosmography would not be an isolated case. Indeed, apart from the petals, stamens and receptacle of the World Lotus, a further part of the flower seems to have a correspondence within Jambūdvīpa. From Meru's total height of 100,000 *yojana*s only 84,000 *yojana*s are said to be visible, whereas its base, having both a length and breadth (i.e., diameter) of 16,000 *yojana*s, is hidden below the surface of the earth (Kirfel 1920: 93). The botanical counterpart of this subterranean part of Meru would be the brownish part at the base of the receptacle to which the petals and stamens are attached and which becomes visible when the latter fall off (see fig. 8).

[70] This topic will be taken up in more detail in a future study.

[71] Since a, presumably floating, lotus leaf was required in some Vedic rituals (see p. 90), it is conceivable that these lines eventually came to the attention of the ritual performers.

discard some of them,[72] it was then attempted to merge both into one coherent model. This was effected by dividing the central *varṣa* of the lotus leaf model into three, thereby creating two new *varṣa*s that could accommodate the eastern and western petal of the World Lotus. The Purāṇic Jambūdvīpa therefore acquired traits of both a floating lotus leaf and a blooming lotus flower.

List of Illustrations

[72] Cf. Gombrich 1975: 111: "[w]hy is Indian cosmology so complicated? Just as the Indian system of social organisation, caste, has grown throughout history by aggregation and inclusion, not abolishing the practices and customs of newly assimilated peoples but assigning them a low place in the social hierarchy, so Indian cosmology – which remained largely a branch of Indian mythology – rarely abandoned a theory or idea, but allowed it to remain alongside the new ideas, even if it was inconsistent with them."

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Illustrations

	Purāṇa (prevailing scheme)[74]	Nāṭyaśāstra[75]	Mahābhārata & Padmapurāṇa[76]	accounts of Jaina cosmography[77]
north	(Uttara)Kuru	Uttarakuru	Airāvata	Airāvata
	Śṛṅga(vat), Śṛṅgin	Śṛṅgavat	Śṛṅgavat	Śikharin
	Hiraṇvat / °maya	Kimpuruṣa	Hiraṇvat / °maya / Hairaṇyaka	Hairaṇyavata
	Śveta	Śveta	Śveta	Rukmin
	Ramya(ka)	Ramya	Ramaṇaka	Ramyaka
	Nīla	Nīla	Nīla	Nīla
	Ilā- Meru vṛta	Ilā- Meru vṛta	Ilā- Meru vṛta	(Mahā-) Mandara/ Meru Videha
	Niṣadha	Niṣadha	Niṣadha	Niṣadha
	Harivarṣa	Harivarṣa	Harivarṣa	Harivarṣa
	Hemakūṭa	Hemakūṭa	Hemakūṭa	Mahāhimavat
	Kimpuruṣa	Haima	Haimavata	Haimavata
	Himavat	Himavat	Himavat	(Kṣudra-)Himavat
south	Bhārata	Bhārata	Bhārata	Bharata (sic)

Table 1: Jambūdvīpa's six *varṣaparvata*s and seven *varṣa*s

[74] Kirfel 1920: 57-109.
[75] NŚ 13.21, 28-32.
[76] Kirfel 1920: 58; Hilgenberg 1933: XIII.
[77] Kirfel 1920: 215-218. For the Prakrit forms of the Sanskrit names given here, see ibid., p. 215.

Fig. 1: Indian Wild Boar, adult male

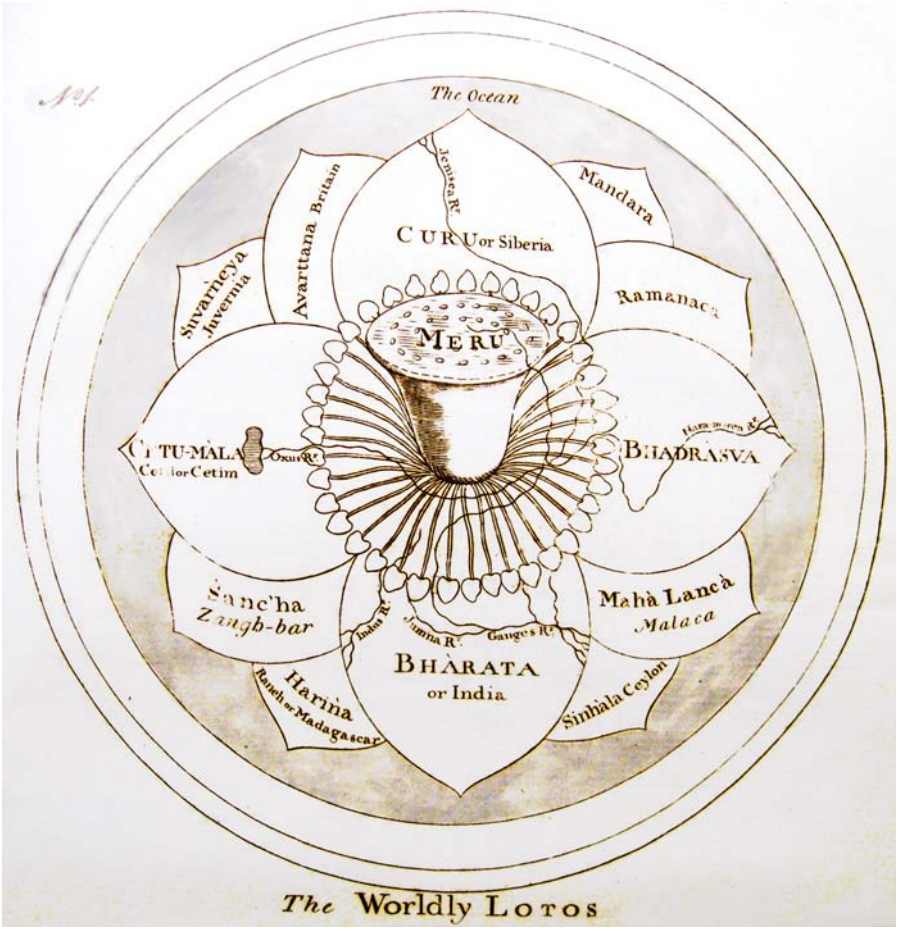

Fig. 2: The Purāṇic Jambūdvīpa shaped like a giant lotus flower

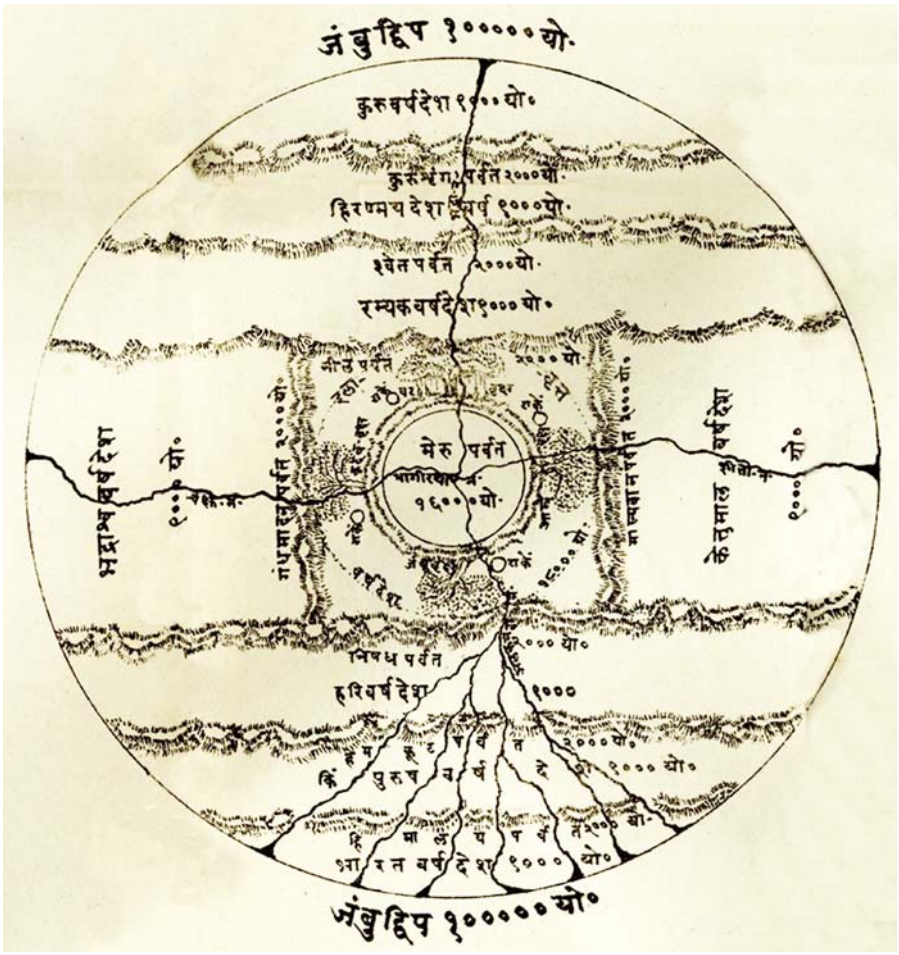

Fig. 3: Jambūdvīpa's nine *varṣa*s

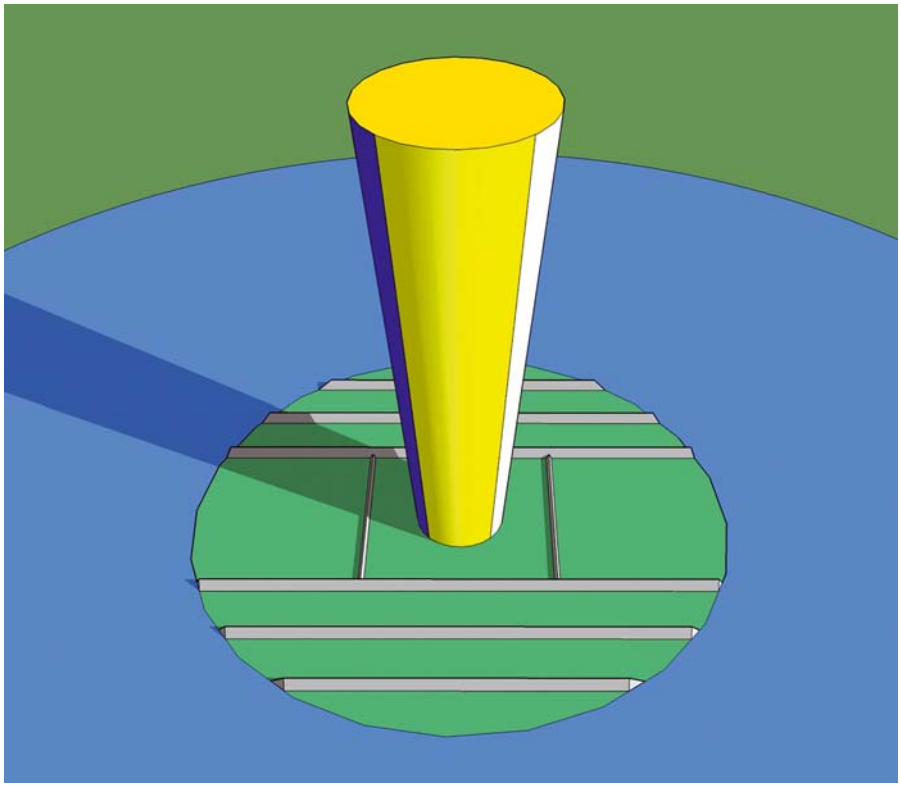

Fig. 4: A simplified representation of Jambūdvīpa and Mount Meru

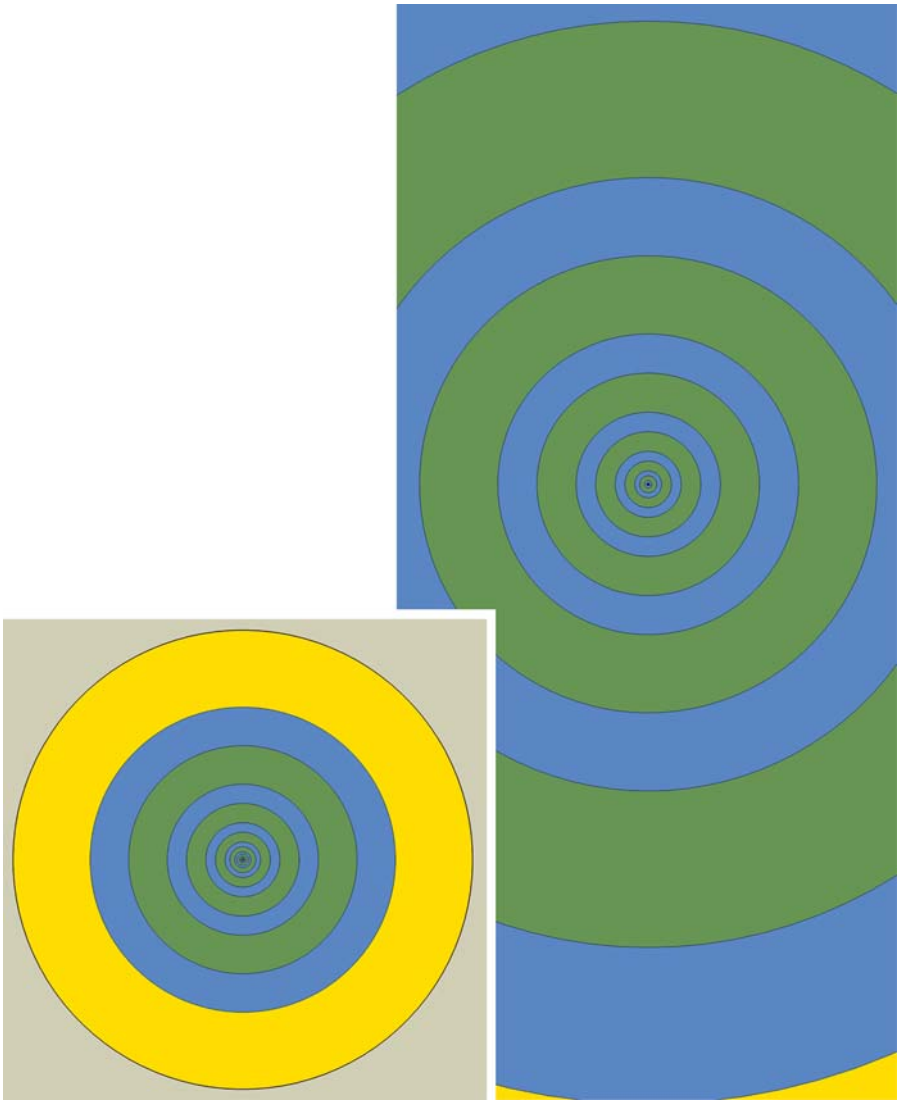

Fig. 5: The Purāṇic *saptadvīpa* model of our universe (cross-section)

Fig. 6: A rolled-up lotus leaf, exemplifying its involute vernation

Fig. 7.1

Fig 7.2

Fig 7.1-4: Lotus leaf lineation

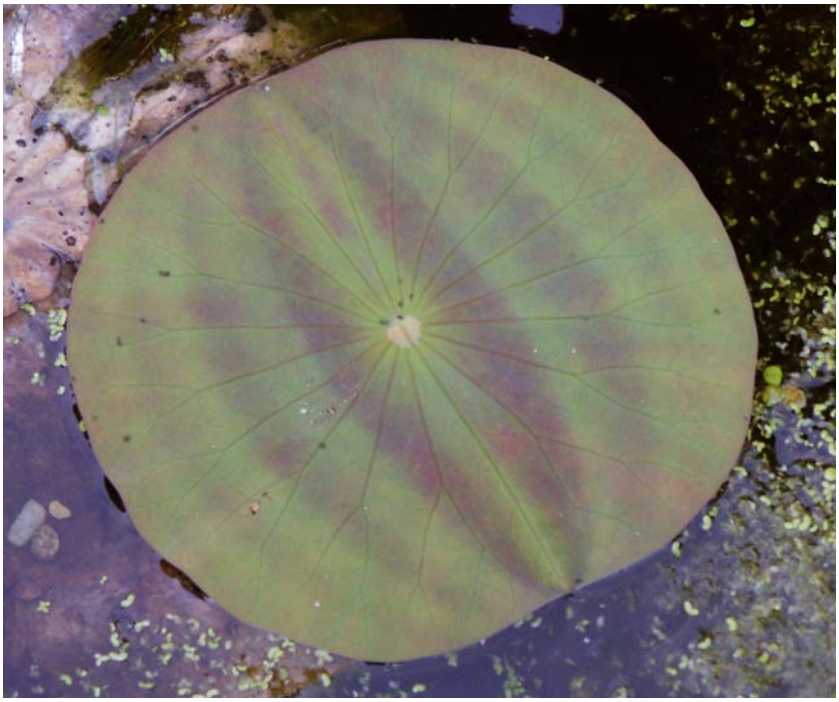

Fig 7.3

Fig 7.4

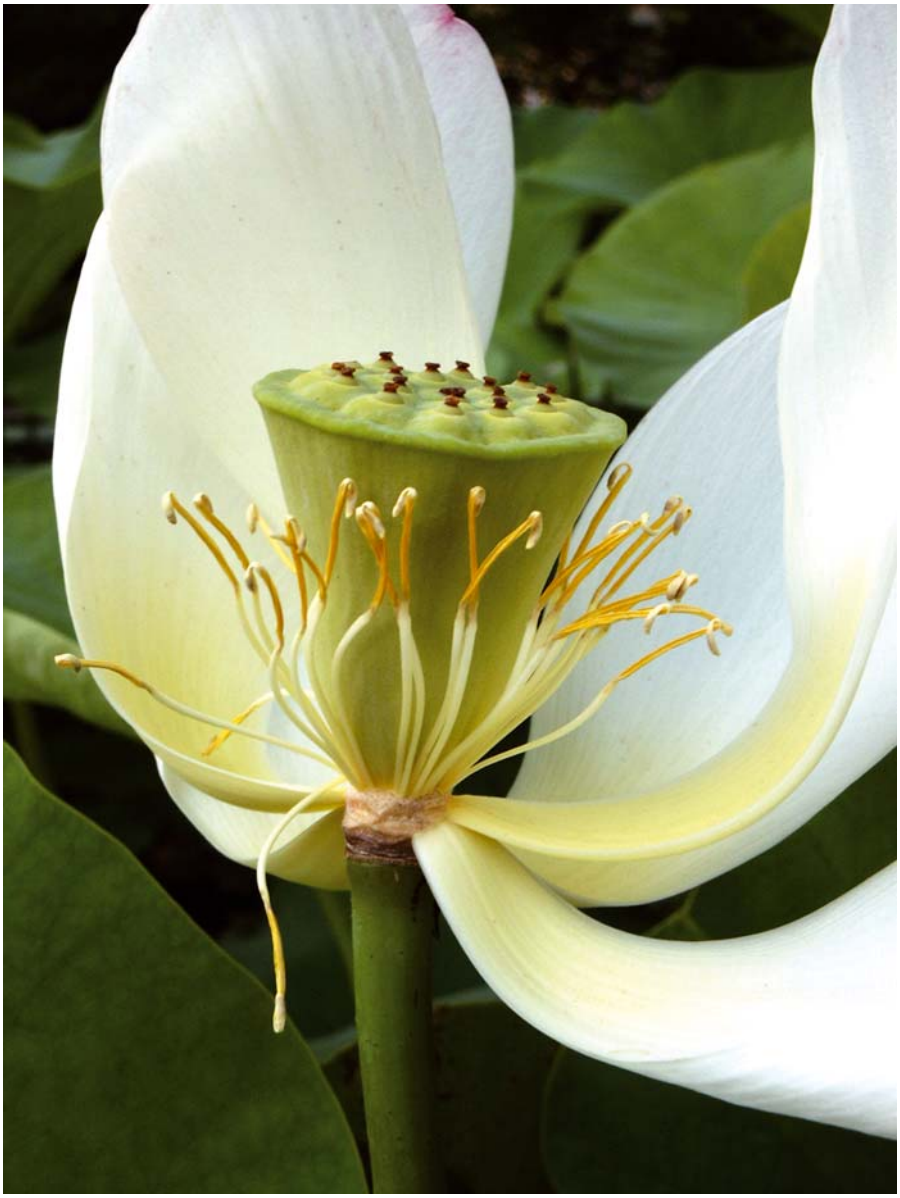

Fig. 8: Floral receptacle of a withering lotus flower