Journal of Yoga Studies
2025 • Volume 6 | pp. 221 – 257

DOI: https://doi.org/10.34000/JoYS.2025.V6.005
ISSN: 2664-1739

THE WHEEL OF THE NAVEL AND LOTUS OF THE HEART: METAPHOR, MEDICAL KNOWLEDGE, AND THE BODY OF EARLY YOGA

Shaman Hatley
University of Massachusetts Boston

Abstract

This essay examines the formative history of the *cakra*s of tantric yoga through a genealogy of the "wheel of the navel" (*nābhicakra*) and "lotus of the heart" (*hṛdayapuṇḍarīka*, etc.). Both expressions appear in the *Pātañjalayogaśāstra* and have precursors in early religious and medical literatures. It is shown that Patañjali's wheel metaphor likely derives from a classical Āyurvedic conception of the navel as a wheel-like hub of bodily ducts, while the image of the heart as a lotus can be traced back to early Upaniṣads (*Chāndogya* 8, 1.1). Further examination reveals that multiple wheel and lotus metaphors feature in early religious and medical representations of the body, which are closely connected. This study highlights important continuities between medical views of the body, Pātañjala yoga, and the body of the early Śaiva *tantra* corpus.

KEYWORDS

cakra, yoga, Tantra, lotus, Śaiva, Pātañjala yoga, *Pātañjalayogaśāstra*, Āyurveda

Introduction

Cakras, "wheels" or "circles" envisioned at various points in the body, are among the most widely-recognized concepts stemming from India's tantric traditions. Usually represented as circular, stylized lotus flowers inscribed with symbols, syllables, and divinities, arrayed in an ascending series along the body's vertical axis, cakras are quintessential elements of the tantric body—the subtle anatomy of yoga as inflected in the tantric traditions. Indeed, cakras are key elements of the meditation practices that distinguish tantric yoga from other Indic forms of contemplation.

Despite their prominence, relatively little scholarly attention has been devoted to the genealogy of cakras and to the formative history of the tantric body. The current state of knowledge is aptly summarized by Mallinson and Singleton (2017: 176–77), who offer the following terse but insightful remarks:

> There are several precursors to the later ubiquitous six-cakra system. The *Mahābhārata* (12.187.51) mentions a knot (*granthi*) at the heart, the untying of which brings happiness. A navel cakra and heart lotus (*puṇḍarīka*) are mentioned in the *Pātañjalayogaśāstra* (1.36, 3.1, 3.29, 3.34) as focuses for meditation and several early tantras also mention cakras or lotuses at the heart and navel (*Vīṇāśikhātantra* 141, 364, *Svacchandatantra* 7.20, *Sārdhatriśatikālottara* 8.32, 10.18, 11.15, 11.17). The *Svacchandatantra* (7.8) describes a nexus of channels (*nāḍīs*) configured 'like [the spokes of] a wheel' (*cakravat*), which the eleventh-century Kashmiri commentator Kṣemarāja locates in the navel and, as mentioned above, the *Sārdhatriśatikālottara*'s tenth chapter also describes a wheel of ten primary channels in the navel.

The present essay elaborates upon these important observations, in particular the references to a "navel wheel" (*nābhicakra*) and "heart lotus" (*hṛdayapuṇḍarīka*) in the *Pātañjalayogaśāstra*. These prove to be productive lenses for reconstructing the early history of the tantric body, virtually all versions of which emphasize the navel and heart. Understanding the *Pātañjalayogaśāstra*'s conceptions of the navel and heart requires exploring a range of early literature, both religious (mainly the Upaniṣads and *Mahābhārata*) and medical. The picture of the body emerging therefrom not only provides crucial background for understanding the *Pātañjalayogaśāstra,* but also the yoga of the early Śaiva *tantra* corpus, which emerges from around the sixth century CE. These connections have been inadequately explored so far but prove crucial to the history of

the tantric body, allowing us to understand, for example, why the imagery of lotus flowers and wheels became so significant.

Meditative fixation (*dhāraṇā*) on points in the body in the *Pātañjalayogaśāstra*

As others have observed already,[1] the 'classical' cakra system prevalent in second-millennium Hindu *tantra*s and Haṭhayoga is absent from the *circa* 400 CE *Pātañjalayogaśāstra*, i.e. Patañjali's *Yogasūtra*s with the *Bhāṣya* commentary, which may or may not be Patañjali's own composition.[2] Meditation on bodily loci, including the navel and the heart, is nonetheless integral to its yoga. Discussions of bodily loci appear in two related contexts. These are the practice of *dhāraṇā*, meditative fixation or concentration; and *saṃyama,* "complete control" or "mastery," a state of accomplishment arising from perfection in the three higher auxiliaries (*aṅga*) of yoga: *dhāraṇā*, *dhyāna* (meditation), and *samādhi* (absorption), practised together. *Saṃyama* is established with respect to a particular meditation object, whether internal or external. *Sūtra* 3.29 states, *nābhicakre kāyavyūhajñānam*: "[from *saṃyama*] with respect to the wheel of the navel [arises] knowledge of the body's arrangement (*kāyavyūha*)." This is the only reference to the navel in the *sūtra*s themselves, and neither these nor the *Bhāṣya* elaborate upon what makes the navel a "wheel" (*cakra*). No other point in the body is so described. The *Bhāṣya* on the *sūtra* explains that "knowledge of the body's arrangement" means understanding of the body's three humours (*doṣa*) and seven constituents (*dhātu*)—key categories of classical Āyurveda. Maas (2008: 130) has analyzed this passage in an illuminating article on medical knowledge in the *Pātañjalayogaśāstra*.[3] Subsequent *sūtra*s elaborate upon *saṃyama* with respect to additional points in the body: the "well of the throat" (*kaṇṭhakūpa*, 3.30), the "tortoise vein" (*kūrmanāḍī*) below this (3.31), the "light in the [top of the] head" (*mūrdhajyotis*, 3.32),[4] and the heart (*hṛdaya*, 3.34), *saṃyama* over which leads to knowledge of the mind

[1] See for example White 2003: 220–21.

[2] Following Philipp Maas (2006) and others before him, I tend to view the *Pātañjalayogaśāstra* as a single Gupta-era composition, while nonetheless taking care to distinguish which evidence is found in the *sūtra*s and which in the *Bhāṣya*.

[3] Maas (2008: 130) constitutes the *Bhāṣya* on *Yogasūtra* 3.29 thus: *nābhicakre saṃyamaṃ kṛtvā kāyavyūhaṃ vijānīyāt. vātapittaśleṣmāṇas trayo doṣāḥ. dhātavaḥ sapta rasa-lohita-māṃsa-snāyu-asthi-majjā-śukrāṇi. pūrvaṃ pūrvam eṣāṃ bāhyam ity eṣa vinyāsaḥ.*

[4] Clarifying *Yogasūtra* 3.32 (*mūrdhajyotiṣi siddhadarśanam*), the *Bhāṣya* comments, *śiraḥkapāle 'ntaś chidraṃ prabhāsvaraṃ jyotis[,] tatra saṃyamāt* [em. Maas (p.c.); *saṃyamaṃ kṛtvā* ed. Āgāśe 1904] *siddhānāṃ dyāvāpṛthivyor*

(*cittasaṃvit*). In its gloss of "heart" in *sūtra* 3.34, the *Bhāṣya* uses the collocation "lotus of the heart" (*hṛdayapuṇḍarīka*), an expression also appearing ad *sūtra*s 1.36 and 3.1, without explication.

Three of these places in the body, and several others, are singled out in the *Bhāṣya* on *Yogasūtra* 3.1 as focal points for *dhāraṇā*, defined by this *sūtra* as the act of concentrating the mind upon a single locus. Commenting thereon, the *Bhāṣya* lists the following sites for concentration: the wheel of the navel (*nābhicakra*), the lotus of the heart (*hṛdayapuṇḍarīka*), the light in the head (*mūrdhajyotis*), the tip of the nose (*nāsikāgra*), and the tip of the tongue (*jihvāgra*).[5] Further sites are mentioned in the commentary on *Yogasūtra* 1.35, which speaks of *dhāraṇā* on the tip of the nose (*nāsikāgra*), tip of the tongue (*jihvāgra*), the palate (*tālu*), the middle of the tongue (*jihvāmadhya*), and root of the tongue (*jihvāmūla*). Concentration at these five points leads to knowledge of the five subtle elements (*tanmātra*s)—scent, taste, form, touch, and sound, respectively[6]—while

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antarālacāriṇāṃ darśanam ("Inside the skull is a hole, [locus of] a radiant light; by mastery with respect to this, one has a vision of the *siddha*s who roam the intermediate region between sky and earth"). Maas (p.c.) points out that the *-Vivaraṇa* commentary may support the reading *chidraṃ prabhāsvaratvāt jyotis* ("a hole [known as] 'the light' because of being radiant;" cf. the *-Vivaraṇa* ad *Pātañjalayogaśāstra* 3.1). This hole is likely what later sources call the *brahmarandhra*, the "fissure of *brahman*" at the anterior fontanelle (see s.v. *brahmarandhra* in *Tāntrikābhidhānakośa*, vol. IV [Goodall and Rastelli *forthcoming*]). Bhojadeva glosses *chidraṃ* precisely thus: *brahmaraṃdhrākhyaṃ* ("[hole] called the 'fissure of *brahman*'"). The word *mūrdhan* itself offers some support: while usually meaning "head," when it is a point for concentration or mantra-*nyāsa*, Śaiva sources place the *mūrdhan* above the points designated *lalāṭa* (forehead) and/or *bhrūmadhya/bhruvor madhya* (between the eyebrows). For references see s.v. *mūrdhan* in ibid. Furthermore, in a famous verse appearing as both *Kaṭha Upaniṣad* 6.16 and *Chāndogya* 8.6.6, *mūrdhan* is the location in the body to which the channel (*nāḍī*) extending up from the heart ascends, the gateway to the immortal; Olivelle (1998) interprets this as "crown of the head." On the idea of contemplation of divine light in the crown leading to visions of *siddha*s, cf. *Matańgapārameśvara, yogapāda* 6.31–36b.

[5] *Pātañjalayogaśāstra* 3.1: *deśabandhaś cittasya dhāraṇā. nābhicakre hṛdayapuṇḍarīke mūrdhajyotiṣi nāsikāgre jihvāgra ity evamādiṣu deśeṣu bāhyeṣu ca viṣayeṣu cittasya vṛttimātreṇa bandha iti dhāraṇā.* "Concentration is binding the mind in one place. The wheel of the navel, lotus of the heart, light in the crown, tip of the nose, tip of the tongue—binding the mind (*citta)* to these and other places and on external objects, with cognitive activity (*vṛtti*) solely [focused on that place], is *dhāraṇā*." I here follow the *Pātañjalayogaśāstravivaraṇa*'s version of the *Bhāṣya* (ed. Rukmani 2001). Maas (p.c.), however, notes that several manuscripts read *hṛdaye* rather than *hṛdayapuṇḍarīke*, as might the *-Vivaraṇa* (which comments, *hṛdayaṃ puṇḍarīkākāraṃ*, "the heart has the shape of a lotus").

[6] *Bhāṣya* ad *Yogasūtra* 1.35 (ed. Maas 2006): *nāsikāgre dhārayato gandhasaṃvit, sā gandhapravṛttiḥ | jihvāgre rasasaṃvit | tāluni rūpasaṃvit | jihvāmadhye sparśasaṃvit | jihvāmūle śabdasaṃvit, ity etā pravṛttaya utpannāś, cittaṃ sthitau nibadhnanti, saṃśayaṃ vidhunvanti, samādhiprajñāyā ca dvārībhavanti |*. "Knowledge of the [subtle element of] scent [arises] for one who fixes the mind at the tip of the nose; this is the appearance (*pravṛtti*) of scent. [From fixing the mind] at the tip of the tongue [arises] knowledge of the taste [subtle element]. At the palate, form. At the middle of the tongue, touch. At the root of the tongue, sound. These

dhāraṇā at the lotus of the heart (*hṛdayapuṇḍarīka*), discussed again ad *Yogasūtra* 1.36, is said to effect knowledge of the *buddhi*, the subtlest aspect of mind.[7] The degree to which concentration on bodily loci is central to Pātañjala yoga has perhaps been insufficiently recognized.

To some degree these discussions of concentration points recall *dhāraṇā* meditations of the *Śāntiparvan* of the *Mahābhārata*. A laconic account in chapter 289 lists the sites for concentration as the navel, throat, head (*śīrṣa*), heart, chest, sides of the torso, and the [sites of] seeing, touch, and smell.[8] Arguably, the *Pātañjalayogaśāstra*'s presentation of bodily loci has at least as much in common with that of the *circa* sixth-century CE *Niśvāsatattvasaṃhitā*, the earliest surviving scripture of the Śaiva Mantramārga (that is, tantric Śaivism). In the *Niśvāsa*, the yogic body is only sketchily developed and differs from both Patañjali and from later tantric conceptions in important ways.[9] Both the navel and heart feature in the exposition of yoga in the *Niśvāsa*'s *Nayasūtra*, as do additional points well-known from other yoga systems, while this is probably the earliest source teaching *dhāraṇā* upon the five gross material elements in bodily loci: the big toes (for the wind), navel (for fire), throat (for earth), uvula and/or tonsils (for water), and the head/crown (*mūrdhan*, for space).[10] Among other passages of interest, five partially overlapping places are specified as loci for breath control (*prāṇarodha*): the navel, heart, throat, between the eyebrows (*bhrūmadhya*), and the "door in the head" (4.137c–41). Nothing in the *Niśvāsa* seems to elucidate the *Pātañjalayogaśāstra*'s references to a navel-wheel or heart-lotus, however.

[sensory-based] appearances arise [from *dhāraṇā*], which bind the mind in stability, remove doubt, and become portals to the wisdom of *samādhi*."

[7] *Bhāṣya* ad *Yogasūtra* 1.36 (ed. Maas 2006): *... hṛdayapuṇḍarīke dhārayato buddhisaṃvit | buddhisattvaṃ hi prabhāsvaram ākāśakalpaṃ, yatra sthitivaiṣamyāt pravṛttiḥ sūryendugrahamaṇiprabhākāreṇa vikalpyate |*. "Knowledge of the *buddhi* [arises] for one who fixes the mind at the lotus of the heart. For the lucidity (*sattva*) comprising *buddhi* is radiant and sky-like. Therein, on account of the unevenness of stability, an appearance (*pravṛtti*) is cognized resembling the light of the sun, moon, planet, or a jewel."

[8] *Mahābhārata* 12, 289.39–41: *nābhyāṃ kaṇṭhe ca śīrṣe ca hṛdi vakṣasi pārśvayoḥ | darśane sparśane cāpi ghrāṇe cāmitavikrama* ||39|| *sthāneṣv eteṣu yo yogī mahāvratasamāhitaḥ | ātmanā sūkṣmam ātmānaṃ yuṅkte samyag viśāṃ pate* ||40|| *sa śīghram amalaprajñaḥ karma dagdhvā śubhāśubham | uttamaṃ yogam āsthāya yadīcchati vimucyate* ||41||. For a study and translation of this chapter, see Fitzgerald 2012.

[9] See Goodall et al. (2015: 33–35), who observe that "the simplicity of the yogic body as described in the *Niśvāsa* is striking" (page 35). On the dating of the four *sūtra*s of the *Niśvāsa*, which represent multiple strata, see ibid. (especially pages 71–84).

[10] *Nayasūtra* 4.115–16b: *vāyavīṃ dhāraye 'ṅguṣṭhe āgneyīṃ nābhimadhyataḥ | māhendrīṃ kaṇṭhadeśe tu vāruṇīṃ ghaṇṭikeṣu ca || ākāśadhāraṇā mūrdhni sarvasiddhikarī smṛtā |*. On the interpretation of *ghaṇṭikeṣu* and other peculiarities of this passage, see Goodall et al. 2015: 493–94.

In these three sources we see snapshots of partially overlapping schemata for meditation on bodily loci separated by several centuries. And despite difficulties in connecting the dots, there are enough continuities with early tantric sources that one might be tempted to see in the *Pātañjalayogaśāstra* the makings of the yogic body well-known from tantric and haṭhayogic traditions of the second millennium. After all, no matter how lean on detail, in the *Pātañjalayogaśāstra* we encounter points in the body called *cakra* and lotus (*puṇḍarīka*), yogic concentration upon the navel, chest, throat, and various points in the head, and phenomenal powers attached to their mastery.[11] Obviously much more is missing: to name just a few features, neither is there a central channel (*nāḍī*) spanning the vertical axis of the torso,[12] nor anything resembling *kuṇḍalinī*, nor "knots" (*granthi*) to be pierced. There is no mention of points in the lower

[11] Cf. the view of Larson (2009: 493), who remarks, "it could well be the case that this very sequence of *sūtra*s (III.26–34) represents an early, if not the earliest, evidence for what will later come to be known as the system of Haṭha Yoga." He goes too far, however, in proposing that "there is an implicit 'vital center' *(cakra)* theory. The notions of a solar entrance *(sūrya-dvāra)* (also called *suṣumṇā-dvāra* by Vācaspatimisra) and a lunar entrance *(candra-dvāra)* are in place. There appears to be a theory of channels or veins *(nāḍī)*." Leaving aside the question of *cakra*s for the moment, Vācaspatimiśra is almost certainly mistaken in finding a reference to the central yogic channel (*suṣumṇā*) in *sūryadvāra* in the *Bhāṣya* ad *sūtra* 26. There is no reference to a lunar door (*candradvāra*). This sequence of *sūtra*s (3.26–28) speaks of *saṃyama* with respect to the sun, moon, and polestar (*dhruva*), and I see no indication that these signify aspects of a subtle body; *saṃyama* over the celestial bodies in question leads to knowledge of cosmology ("knowledge of worlds" in the case of the sun, which the *Bhāṣya* explains as the hierarchy of hells, worlds, heavens, etc.). *Sūryadvāra* seems best interpreted in light of a widely-quoted hemistich of the *Muṇḍaka Upaniṣad* (1, 2.11cd): *sūryadvāreṇa te virajāḥ prayānti yatrāmṛtaḥ sa puruṣo hy avyayātmā*, "Through the sun's door they go, spotless, // to where that immortal Person is, // that immutable self" (trans. Olivelle). On the idea of the sun as the gateway to the immortal state in the early Upaniṣads, see Gerety 2021 and White 2009. The explanation of Vijñānabhikṣu is likely correct: *... sūryadvāraṃ ca brahmaṇo lokadvārabhūtaṃ ...* ("... and the sun's door, being the portal to the world of *brahman* ..."). While the *Pātañjayogasūtra* may share with early Upaniṣads the idea of a channel running from the heart to the head, arguably an early version of the central channel—see the next note—it does not know of *iḍā* and *piṅgalā*, etc.

[12] *Pātañjalayogaśāstra* 3.39 may nonetheless imply the existence of a channel spanning from the heart to the head, an idea attested already in *Bṛhadāraṇyaka* 4, 2.3 and 4.8–9, and *Chāndogya Upaniṣad* 8, 6.1–6, quoted later in this essay. This *sūtra* concerns "conquest of the upwards breath" (*udāna)*, which results in not being restrained by water, mud, thorns, and so forth, and to "ascension" (*utkrānti*) (*udānajayāj jalapaṅkakaṇṭakādiṣv asaṅga utkrāntiś ca:* "From conquest of the upwards breath [there arise the power of] non-contact in water, mud, thorns, etc., and ascension"). According to the *Bhāṣya, utkrānti* refers to the soul's ascension from the body upon death (*... utkrāntiś ca prāyaṇakāle bhavati*, "and ascension occurs at the time of [the soul's] departure"). This is precisely the function of *udāna* according to *Praśna Upaniṣad* 3.6–7, quoted below: to convey the soul upwards through one of the channels of the heart to its destination after death. Given the Upaniṣadic background, it seems likely that *Yogasūtra* 3.39 likewise implies the existence of a channel leading up from the heart through which the upwards breath conducts the soul (unlike the tantric *suṣumṇā*, this did not likely extend below the heart as well).

torso, and only a single *nāḍī* is named: the *kūrmanāḍī* of the throat (3.31). Patañjali's yoga includes some form of meditation upon the material elements, perfect control (*saṃyama*) of which leads to their "conquest" (*bhūtajaya*), but in contrast to tantric meditation on the elements, there is no indication of these involving bodily loci.[13] And of course, elaborate homologies involving *tattva*s, deities, and mantra-syllables are absent. What, then, is the significance of the navel (*nābhi*) being designated a wheel, and the heart a lotus? No other part of the body is described in either manner. Further inquiry requires that we turn to earlier religious literature and other textual genres, especially medical literature.

Wheels and channels of the navel and heart

The *nābhi* of traditional Indian medicine differs fundamentally from the navel of modern anatomy and physiology, though "navel" and "nave" are cognates of the Sanskrit *nābhi* and *nābha*.[14] "Navel" refers to a depression in the abdominal wall, essentially a scar marking where the fetal umbilical cord was attached. The *nābhi* of Āyurveda, in contrast, is far more than a relic of this kind: the *Carakasaṃhitā* categorizes it as one of the body's fifteen internal organs (*koṣṭhāṅga*), one of ten loci of vital air (*prāṇāyatana*), and one of the "sensitive points" (*marman*) where injury may be lethal.[15] Key to the *nābhi*'s conception in classical Āyurveda is the idea that it forms the root or hub of the body's various ducts and vessels, known by terms such as *sirā*, *dhamanī*, and *srotas*. Although the Upaniṣads and sources concerned with yoga mainly use the term *nāḍī* for bodily channels, medical literature identifies multiple kinds of vessel, the

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[13] "Conquest of the elements" is referenced in the somewhat opaque *Yogasūtra* 3.44 (*sthūlasvarūpa-sūkṣmānvayārthavattvasaṃyamād bhūtajayaḥ*). Vasudeva (2004: 329) summarizes the *Bhāṣya*'s explanation thus: "... conquest of the five course elements (*bhūtajaya*) is achieved by performing *saṃyama* on five successively more interiorised forms of each element." On *dhāraṇā* on five bodily loci leading to knowledge of the five subtle elements see the discussion of *Pātañjalayogaśāstra* 1.35 above. The concept of *bhūtajaya* is suggestive of the broader tantric concept of *tattvajaya*, "conquest" of the hierarchy of ontic principles (*tattva*) through yoga; see s.v. *tattvajaya* in *Tāntrikābhidhānakośa*, vol. III (Goodall and Rastelli 2012).

[14] *Oxford English Dictionary*, s.v. "nave". Retrieved from: https://doi.org/10.1093/OED/1090665441. Accessed on: 19 May, 2022.

[15] Fifteen internal organs, beginning with the navel, are listed in *Carakasaṃhitā* 4, 7.10 (*pañcadaśa koṣṭhāṅgāni; tad yathā—nābhiś ca, hṛdayaṃ ca, kloma ca, yakṛc ca, plīhā ca, vṛkkau ca, bastiś ca, purīṣādhāraś ca, āmāśayaś ca, pakvāśayaś ca, uttaragudaṃ ca, adharagudaṃ ca, kṣudrāntraṃ ca, sthūlāntraṃ ca, vapāvahanaṃ ceti ||*). *Carakasaṃhitā* 4, 7.9 names ten loci of vital air and six sensitive points, both of which include the navel (*daśa prāṇāyatanāni; tad yathā—mūrdhā, kaṇṭhaḥ, hṛdayaṃ, nābhiḥ, gudaṃ, bastiḥ, ojaḥ, śukraṃ, śoṇitaṃ, māṃsam iti | teṣu ṣaṭ pūrvāṇi marma-saṃkhyātāni ||*).

distinctions between which are frequently unclear.[16] Dominik Wujastyk (2009: 208–9) explicates a key passage on this subject from the *Suśrutasaṃhitā*, one of the canonical treatises of classical Āyurveda, in an important article, "Interpreting the Image of the Human Body in Premodern India." The context is an examination of the body's "ducts" (*sirā*) in *Śārīrasthāna* (book 3), chapter 7:

> According to the *Suśruta Saṃhitā*, the function of the 700 ducts is to carry wind, bile, phlegm, and blood around the body, starting from their "root" in the navel. In a vivid pair of metaphors, one agricultural and one botanical, Suśruta's text describes the ducts as follows:
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> "There are seven-hundred ducts. This body is irrigated by these, just like a garden by water channels, and a field by ditches. And it is assisted by special contractions and expansions. Their ramifications are like those of the veins on the leaf of a tree. Their root is the navel. From there, they spread out upwards, downwards and horizontally."
>
> [*Suśrutasaṃhitā* 3, 7.3: *sapta sirāśatāni bhavanti; yābhir idaṃ śarīram ārāma iva jalahāriṇībhiḥ kedāra iva ca kulyābhir upasnihyate 'nugṛhyate cākuñcanaprasāraṇādibhir viśeṣaiḥ; drumapatrasevanīnām iva ca tāsāṃ pratānāḥ; tāsāṃ nābhir mūlaṃ, tataś ca prasaranty ūrdhvam adhas tiryak ca* ||]

In this view, the navel is the ultimate source of all the body's ducts or channels, which emerge from it to branch out and pervade the body.

In addition to the agricultural and botanical metaphors that Wujastyk highlights,[17] the vulgate *Suśrutasaṃhitā* furnishes a mechanical metaphor as well: that of the navel as *cakranābhi*, the nave of a wheel. This image appears just afterwards, in the second of two verses quoted from unknown sources:

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[16] As notes Wujastyk (2009: 208), "Surprisingly little work has been done on clarifying what these conduits do and how they are explained in Āyurvedic theory." He further observes (page 209) that "... in Suśruta's time there was controversy about all these conduits. The *Suśruta Saṃhitā* records a view that all these tubes, pipes, and ducts are in fact all the same thing. But the view is rejected on the basis of differences in appearance, source, and function (*Suśruta Saṃhitā*, *śārīrasthāna* 9)."

[17] Wujastyk (2009: 209) points out an additional botanical simile as well: Suśruta quotes a verse likening the ducts to the stem and stalk of a lotus plant, insofar as both possess tiny holes through which fluids pass (3, 9.10: *yathā svabhāvataḥ khāni mṛṇāleṣu biseṣu ca | dhamanīnāṃ tathā khāni raso yair upacīyate* ||). For an excellent study of (predominantly agricultural) metaphors in spiritual cultivation, in both Pātañjala yoga and Buddhism, see O'Brien-Kop 2022.

3, 7.4 *bhavataś cātra—*
yāvatyas tu sirāḥ kāye saṃbhavanti śarīriṇām |
nābhyāṃ sarvā nibaddhās tāḥ pratanvanti samantataḥ ||

3, 7.5 *nābhisthāḥ prāṇināṃ prāṇāḥ prāṇān nābhir vyupāśritā |*
sirābhir āvṛtā nābhiś cakranābhir ivārakaiḥ ||

And on this matter there are two [verses]:

"Whatever ducts exist in the body of living beings, all of these are bound to the navel, [from which] they extend out in all directions.

"The vital airs of living beings are situated in the navel; the navel is supporting the vital airs.[18] The navel is surrounded by ducts, like the nave of a wheel by spokes."

In this metaphor, the spokes of the wheel are the body's channels, radiating outwards in all directions, carrying the vital air, nourishment, waste, and so on.

Like the *Carakasaṃhitā*, the *Suśrutasaṃhitā* has a complex redactional history; its core, and likely the bulk of the *Śārīrasthāna*, may be presumed to precede the *Pātañjalayogaśāstra* or to reflect roughly contemporaneous views.[19] However, the second of these verses (7.5) is absent from the Nepalese palm-leaf manuscripts of the *Suśrutasaṃhitā*, and was thus probably added sometime after 900 CE but prior to the commentary of Ḍalhaṇa of *circa* 1200 CE.[20] Hence, while the earlier version of the passage presents the navel as the root of all the body's ducts, it does not describe it as wheel-like. The earliest surviving medical source to do so is Vāgbhaṭa's influential

[18] Understanding the rarely-attested *vyupāśritā* in the sense of *upāśritā*, "supporting, bearing," etc.

[19] For a brief discussion, see Wujastyk 2003: 63–64; to summarize (page 64), "... in Suśruta's text we have a work the kernel of which probably started some centuries BC in the form of a text mainly on surgery, but which was then heavily revised and added to in the centuries before AD 500." Current research (e.g. Wujastyk et al. 2023) shows that this process continued well beyond 500 CE; the *Suśrutasaṃhitā* "was subject to an extensive editorial revision between the Nepalese version and the vulgate text known to Ḍalhaṇa in about 1200" (Wujastyk, p.c.).

[20] Information courtesy of Dominic Wujastyk (p.c.).

Aṣṭāṅgahṛdaya of *circa* 600 CE.[21] In addition to recording the view that the navel is the source of all ducts,[22] Vāgbhaṭa describes it thus:

> *dhamanyo nābhisaṃbaddhā viṃśatiś caturuttarā |*
> *tābhiḥ parivṛtā nābhiś cakranābhir ivārakaiḥ ||39||*
> *tābhiś cordhvam adhas tiryag deho 'yam anugṛhyate |*
>
> Four and twenty ducts are bound to the navel; the navel is surrounded by them, like the nave of a wheel by spokes. This body is supported by these above, below, and on the sides. (*Aṣṭāṅgahṛdaya* 2 [*śārīrasthāna*], 3.39–40b)

This view of the navel as a wheel of channels became widespread in the period after Vāgbhaṭa, as the *Suśrutasaṃhitā*'s incorporation of the metaphor indicates.

Patañjali's reference to a navel-wheel in *sūtra* 3.29 precedes these attestations in Āyurvedic literature by centuries. Yet despite the chronology, I would suggest that classical medical views provide critical background: the navel is a *cakra* because bodily ducts radiate outwards from it like spokes from the hub of a wheel (*cakra*).[23] This is the most plausible explanation in the context of period representations of the body, as explored further below. Moreover, this interpretation provides insight into *Pātañjalayoga-śāstra* 3.29, which promises *kāyavyūhajñāna*, "knowledge of the body's arrangement," from meditative mastery (*saṃyama*) of the navel; this becomes fully intelligible in light of the Āyurvedic view of the navel as the root and wheel-like hub of the body's network of channels through which the three humours and other substances flow. Although, as Maas (2008) demonstrates, we cannot link the *Pātañjalayogaśāstra*'s medical knowledge to any single extant classical treatise, its ideas certainly derive from a form of classical Āyurveda, in a few notable instances cohering with the

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[21] For a brief overview on the dating of the *Aṣṭāṅgahṛdaya* and its relationship to the *Aṣṭāṅgasaṃgraha*, also attributed to Vāgbhaṭa, see Wujastyk 2003: 195–96.

[22] *Aṣṭāṅgahṛdaya* 2, 4.12c–13a, in a discussion of the vital points (*marman*): *dehāmapakvasthānānāṃ madhye sarvasirāśrayaḥ || nābhiḥ so 'pi hi sadyoghno …* ("The navel (*nābhi*) is in the middle of the body, between the stomach and the intestines. It is the starting point of all the ducts. It too kills immediately." Trans. Wujastyk 2003: 238).

[23] The *Vivaraṇa* ad *Pātañjalayogaśāstra* 3.1 nonetheless records a different view. Commenting on *nābhicakre*, the author explains, *nābhipradeśaś cakram iva | sarve vāyavas tatra cakrībhūtā iti nābhicakram |*. "The navel region is like a wheel. All of the vital airs become a wheel there, hence [it is called] 'wheel of the navel'." The editors of the *Vivaraṇa* (Sastri & Sastri, followed by Rukmani) emend "vital airs" (*vāyavas*) to "parts of the body" (*avayavās*), but on an unclear basis. On the connection between the navel and vital airs, as well as channels, see *Suśrutasaṃhitā* 3, 7.5, quoted above.

Suśrutasaṃhitā.[24] In this case his medical source probably viewed the navel in a manner similar to the *Aṣṭāṅgahṛdaya* and vulgate *Suśrutasaṃhitā*. Patañjali differs only in phrasing: rather than the simile of the navel being "like the nave of wheel" (*cakranābhir iva*), he uses a metaphor, "the wheel of the navel" (*nābhicakra*). Both usages appear in early tantric Śaiva sources, roughly in the period of the *Aṣṭāṅgahṛdaya*.[25] Medical literature thus provides critical background for understanding the *Pātañjalayogaśāstra*'s navel-wheel. Far from being a meditational construct or abstract metaphor, it is fundamentally anatomical in conception.

A genealogy of this view of the navel raises several points of interest. Intriguingly, the *Carakasaṃhitā*, one of the canonical treatises of Āyurveda, does not present the navel as wheel-like, but speaks of the heart thus instead. Both the *Carakasaṃhitā* and *Suśrutasaṃhitā* view the heart as the seat of the mind,[26] a view established from the late Vedic period (Olivelle 2006: 53) that remains implicit in the *Pātañjalayogaśāstra*, which in *sūtra* 3.34 (*hṛdaye cittasaṃvit*) promises understanding of the mind as the result of mastery (*saṃyama*) of the heart. A passage in the *Carakasaṃhitā*'s *siddhisthāna* (8, 9.4) describes the heart as the locus of ten channels as well as ten constituent factors of personhood. These are arrayed around the heart like the spokes of a wheel:

> *tatra hṛdaye daśa dhamanyaḥ prāṇāpānau mano buddhiś cetanā mahābhūtāni ca nābhyām arā iva pratiṣṭhitāni …*
>
> Among these [vital organs], in the heart are established ten ducts, the *prāṇa* and *apāna* vital airs, mind, higher intellect, consciousness, and the [five] gross elements, like spokes in the hub [of a wheel] …

The passage in which this sentence occurs identifies the heart, bladder, and head as the body's most important vital points (*marman*), each the locus of a distinct set of ducts or

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[24] See Maas 2008, especially §§4.3.1–2, 4.4, and 8.2. He concludes that "the system of medical knowledge with which Patañjali was acquainted is clearly Āyurvedic, and of an early classical style. Presumably it reflects the author's familiarity with one of the many corpora of medical knowledge that have not been preserved, simply because they were long ago superseded by other, more authoritative writings" (page 153).

[25] For the simile of the navel as wheel-like (*cakravat*), see, e.g., *Sārdhatriśatikālottara* 10.2 and *Svacchandatantra* 7.8cd; *Sārdhatriśatikālottara* 10.14a refers also to the *nābhicakra* (cf., e.g., *Mālinīvijayottara* 19, where the term occurs thrice).

[26] Note especially *Carakasaṃhitā* 4, 7.8 (*hṛdayaṃ cetanādhiṣṭhānam ekam*) and *Suśrutasaṃhitā* 3, 4.34ab (*hṛdayaṃ cetanāsthānam uktaṃ suśruta dehinām*).

channels (called *dhamanī*, *srotas*, and *nāḍī*, respectively).[27] Thus, in contrast to the *Suśrutasaṃhitā*, bodily channels arise from three organs;[28] these do not include the navel, and only the heart is described as wheel-like, with ten spoke-like ducts (*dhamanī).* The wheel-image is complicated by inclusion of factors not readily envisioned as spoke-like: inhalation and exhalation (*prāṇa* and *apāna*),[29] the mental factors of *manas*, *buddhi*, and *cetanā*, and the five gross elements (*mahābhūta*). While the *Carakasaṃhitā* contains comparatively old material (*circa* 100 BCE–200 CE), the *siddhisthāna*, book 8, is among the sections added by Dṛḍhabala, probably in the period 300–500 CE.[30] Passages in books 1 and 3 of the *Carakasaṃhitā* seem to refer to the same ten channels of the heart, though without the wheel-image.[31] *Carakasaṃhitā* 1 (*sūtrasthāna*), 30.4 identifies the heart as the locus of channels called "the ten great roots" (*daśa mahāmūlāḥ*) as well as a list of factors of personhood differing somewhat from that of 8 (*siddhisthāna*), 9.[32]

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[27] *Carakasaṃhitā* 8, 9.4: *tatra hṛdaye daśa dhamanyaḥ prāṇāpānau mano buddhiś cetanā mahābhūtāni ca nābhyām arā iva pratiṣṭhitāni, śirasi indriyāṇi indriyaprāṇavahāni ca srotāṃsi sūryam iva gabhastayaḥ saṃśritāni, bastis tu sthūlagudamuṣkasevanīśukramūtravāhinīnāṃ nāḍī(lī)nāṃ madhye mūtradhāro 'mbuvahānāṃ sarvasrotasām udadhir ivāpagānāṃ pratiṣṭhā, bahubhiś ca tanmūlair marmasaṃjñakaiḥ srotobhir gaganam iva dinakarakarair vyāptam idaṃ śarīram* ||, "Among these [*marmans*], in the heart are established ten ducts, the *prāṇa* and *apāna* vital airs, mind, higher intellect, consciousness, and the [five] gross elements, like spokes in the hub [of a wheel]. In the head are based the sense organs and the vessels which convey vital air to the sense organs, like rays to the sun. The bladder is the container of urine in the middle of the arse (? *sthūla*), anus, testicles, perineum (*sevanī* [sic.; *sīvanī*?]), and the [urethral] tube that conveys semen and urine; it is the receptacle of all vessels that carry liquid, like the sea for rivers. This body is pervaded by numerous vessels (*srotas*) called 'vital points' [or perhaps 'named after the vital points'?] rooted in these [three], like the sky by the sun's rays."

[28] *Carakasaṃhitā* 3, 5.8, however, identifies a variety of organs as sources of thirteen kinds of channel; the liver (*yakṛt*) and spleen (*plīhā*), for instance, are the sources of blood vessels (*śoṇitavahānāṃ ca srotasāṃ yakṛn mūlaṃ plīhā ca*).

[29] Or perhaps the upward and downward breaths.

[30] Meulenbeld 1999–2002: vol IA, 114, 130–41. See also Maas 2010.

[31] *Carakarasaṃhitā* 3, 5.8 identifies the heart and "the great channel" (*mahāsrotas*) [of the throat] as the root of channels (*srotas*) that carry vital air (*prāṇa*) (*tatra prāṇavahānāṃ srotasāṃ hṛdayaṃ mūlaṃ mahāsrotraś ca*), and the heart and its ten *dhamanī*s as the root of channels that convey the liquid essence of food (*rasa*) (*rasavahānāṃ srotasāṃ hṛdayaṃ mūlaṃ daśa ca dhamanyaḥ*). Takahashi (2019: 426) points out that these ten *dhamanī*s are likely identical to the *mahāmūla* channels of the heart explicated in *Carakarasaṃhitā* 1.30.1–12. In the latter section their main function is to convey vital energy (*ojas*).

[32] *Carakasaṃhitā* 1, 30.3–4: *arthe daśa mahāmūlāḥ samāsaktā mahāphalāḥ | mahac cārthaś ca hṛdayaṃ paryāyair ucyate budhaiḥ || ṣaḍaṅgam aṅgaṃ vijñānam indriyāṇy arthapañcakam | ātmā ca saguṇaś cetaś cintyaṃ ca hṛdi saṃśritam* ||, "To the *artha* are attached the ten great roots that yield great fruit; the wise refer to the heart by the synonyms 'great' (*mahat*) and 'wealth' (*artha*). The body with its six limbs, consciousness, the senses and their five objects, the *ātman* and its qualities, mind, and the object of thought have their base in the

Thus the idea of the navel as the wheel-like root of the body's channels is absent from the *Carakasaṃhitā*, which instead applies the wheel metaphor to the heart, which it views as one of three principal roots of channels. In this regard the *Suśrutasaṃhitā* and *Aṣṭāṅgahṛdaya* represent a notable departure, and not just from the *Carakasaṃhitā*: Caraka's view of the heart has much in common with other early- and pre-first millennium CE sources. Several early works of religious literature attest the image of the heart as a nexus of channels and the locus of personhood. Indeed the notion that precisely ten channels issue from the heart, like spokes of a chariot wheel, appears in *Muṇḍaka Upaniṣad* 2, 2.6:

> *arā iva rathanābhau saṃhatā yatra nāḍyaḥ*
> *sa eṣo 'ntaś carate bahudhā jāyamānaḥ |*
> *oṁ ity evaṁ dhyāyatha ātmānaṃ*
> *svasti vaḥ pārāya tamasaḥ parastāt ||*
>
> Where the veins come together,
> like spokes on the hub,[33]
> In it that one moves,
> taking birth in many ways.
> "It is Oṃ"—meditate thus on this self;
> Good luck to you, as you cross
> beyond the darkness! (Trans. Olivelle 1998.)

"Where the veins come together" *(saṃhatā yatra nāḍyaḥ)* is a reference to the heart, locus of the soul (*ātman*)—a ubiquitous theme in the Upaniṣads.[34] In this matter the *Muṇḍaka* differs from Caraka, for whom the heart is the locus of *manas*, *buddhi*, and *cetanā*; this is perhaps an early variation on the *antaḥkaraṇa* ("inner faculty") of Sāṅkhya, with *cetanā* instead of ego (*ahaṃkāra*).

The *Muṇḍaka*'s idea that the soul circulates in the heart's channels has precedents in the earlier Upaniṣads, and would became an important theme in early tantric Śaivism.[35]

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heart."

[33] On the hub of a chariot wheel (*rathanābhi*), to be precise.

[34] See especially *Chāndogya Upaniṣad* 8, 3.3: *sa vā eṣa ātmā hṛdi | tasyaitad eva niruktaṃ hṛdy ayam iti tasmād dhṛdayam | ahar ahar vā evaṃvit svargaṃ lokam eti ||*, "Now, this self (*ātman*) is located in the heart. And this is its etymology—'in the heart (*hṛdi*) is this (*ayam*),' and so it is called 'heart' (*hṛdayam*). Anyone who knows this goes to the heavenly world every single day" (trans. Olivelle 1998).

[35] Little has yet been written on the subject; for some useful observations, see s.v. *nāḍīsañcāra* ("movement

The "veins of the heart" (*hṛdayasya nāḍyaḥ*) are treated in the *Bṛhadāraṇyaka Upaniṣad* (2, 1.19; 4, 2.3; 4, 3.20; 4, 4.8–9), *Chāndogya Upaniṣad* (8, 6.1–6), and *Kauṣītakī Upaniṣad* (4.19). These closely-related passages mainly concern the subset of *nāḍī*s called *hitā*. Noteworthy among them is *Bṛhadāraṇyaka* 2, 1.19, which, as with several other passages, is concerned with the status of the 'person' (*puruṣa*) in sleep:

> *atha yadā suṣupto bhavati yadā na kasya cana veda hitā nāma nāḍyo dvāsaptatiḥ sahasrāṇi hṛdayāt purītatam abhipratiṣṭhante tābhiḥ pratyavasṛpya purītati śete | sa yathā kumāro vā mahārājo vā mahābrāhmaṇo vātighnīm ānandasya gatvā śayīta | evam evaiṣa etac chete ||*
>
> When a man is in deep dreamless sleep, on the other hand, and is not aware of anything at all, this is what happens. There are seventy-two thousand veins named Hitā that run from the heart to the pericardium. He slips out of the heart through these veins and rests within the pericardium. He rests there oblivious to everything, just as a young man, a great king, or an eminent Brahmin remains oblivious to everything at the height of sexual bliss. (Trans. Olivelle 1998.)

Here, and in the *Kauṣītakī* passage,[36] the *hitā* veins appear to be confined within the heart, radiating out from its core to the exterior rather than throughout the body, if *purītat* indeed refers to the pericardium (the membrane or sac enclosing the heart). Other passages specify that the *nāḍī*s "are as fine as a hair split a thousandfold," and convey bodily essences of five colours, probably reflecting the various substances they convey.[37] The number 72,000[38] would prove enduring: according to numerous later

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through the channels") in *Tāntrikābhidhānakośa*, vol. III (Goodall and Rastelli 2012).

[36] *Kauṣītakī Upaniṣad* 4, 19.20–22: *... hitā nāma puruṣasya nāḍyo hṛdayāt purītatam abhipratanvanti | tad yathā sahasradhā keśo vipāṭitas tāvad aṇvyaḥ piṅgalasyāṇimnā tiṣṭhanti śuklasya kṛṣṇasya pītasya lohitasya ca | tāsu tadā bhavati yadā suptaḥ svapnaṃ na kañcana paśyati ||*, "... there are in a person veins called Hitā that extend from the heart to the pericardium (*purītat*). They are as fine as a hair split a thousandfold. They contain the finest fluids of orange, white, black, yellow, and red. When a person is asleep and sees no dreams, he remains within these veins" (trans. Olivelle 1998).

[37] *Kauṣītakī* 4, 19.21 (see above); cf. *Bṛhadāraṇyaka* 4, 2.30: *tā vā asyaitā hitā nāma nāḍyo yathā keśaḥ sahasradhā bhinnas tāvatāṇimnā tiṣṭhanti | śuklasya nīlasya piṅgalasya haritasya lohitasya pūrṇāḥ...* ; cf. also *Bṛhadāraṇyaka* 4, 2.3: *... yathā keśaḥ sahasradhā bhinna evam asyaitā hitā nāma nāḍyo 'ntar hṛdaye pratiṣṭhitā bhavanti ...* On colours of channels reflecting the colours of substances, see Wujastyk 2009: 208.

[38] Acharya (2013: 15–16) argues that "seventy-two" (*dvāsaptatiḥ*) in *Bṛhadāraṇyaka* 2, 1.19 was a later addition (though prior to *Praśna Upaniṣad* 3.6–7, quoted below), in fact possibly a redactional slip, and that the passage originally spoke more vaguely of "thousands" (*sahasrāṇi*).

tantric and haṭhayogic sources, this, or a variation thereon, is the total number of bodily *nāḍī*s.[39]

Despite their constraint within the heart in the passages cited above, elsewhere the heart's channels are linked to what lies beyond. *Bṛhadāraṇyaka* 4, 2.3 speaks of a vein extending upwards from the heart traversed by Indra and his wife Virāj—the 'persons' in the right and left eyes, respectively, who also preside together in the 'space' (*ākāśa*) within the heart.[40] *Bṛhadāraṇyaka* 4, 4.8–9 as well as *Chāndogya Upaniṣad* 8, 6.1–6, in contrast, link the channel that goes up to attainment of immortality. While the former is elliptical, the latter prose passage links the heart and its five-coloured channels to the sun, its divine homologue and "door to the farther world." Linking the two are the sun's rays, "which traverse both the worlds, the one down here and the one up above. Extending out from the sun up there, they slip into these veins here, and extending out from these veins here, they slip into the sun up there." At the time of death, the man of knowledge ascends to the sun by its rays.[41] The passage ends by quoting a verse (8, 6.6),

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[39] Among early Śaiva *tantra*s, note e.g. *Sārdhatriśatikālottara* 10.2 and *Vīṇāśikhātantra* 140; for a much later example, note e.g. *Haṭhapradīpikā* 1.39, 3.119, and 4.18. Already the *Praśna Upaniṣad* attests a variation on this number, for it speaks of each sub-*nāḍī* branching into 72,000; see below. While this number appears to be absent from classical medical literature, it surfaces in some late-medieval, tantric influenced sources, e.g. the *Nāḍīcakra* or *Nāḍīvijñānīya* summarized by Meulenbeld (1999–2002: vol. IIA, 421), who characterizes this as "a remarkable treatise on the examination of the pulse" (*nāḍīparīkṣā*).

[40] *Bṛhadāraṇyaka Upaniṣad* 4, 2.3: *tayor eṣa saṃstāvo ya eṣo 'ntar hṛdaya ākāśaḥ | athainayor etad annaṃ ya eṣo 'ntar hṛdaye lohitapiṇḍaḥ | athainayor etat prāvaraṇaṃ yad etad antar hṛdaye jālakam iva | athainayor eṣā sṛtiḥ saṃcaraṇī yaiṣā hṛdayād ūrdhvā nāḍy uccarati | yathā keśaḥ sahasradhā bhinna evam asyaitā hitā nāma nāḍyo 'ntar hṛdaye pratiṣṭhitā bhavanti | etābhir vā etad āsravad āsravati | ...*, "Their meeting place is the space within the heart, their food is the red lump in the heart, and their garment is the meshlike substance within the heart. The path along which they travel is the vein that goes up from the heart. The veins called Hitā that are located in the heart are as fine as a hair split a thousandfold. Along them the sap flows continuously..." (trans. Olivelle 1998). Cf. *Maitrāyaṇīya Upaniṣad* 7.11.

[41] *Chāndogya Upaniṣad* 8, 6.1–2, 6.5: *atha yā etā hṛdayasya nāḍyas tāḥ piṅgalasyāṇimnas tiṣṭhanti śuklasya nīlasya pītasya lohitasyeti | asau vādityaḥ piṅgala eṣa śukla eṣa nīla eṣa pīta eṣa lohitaḥ ||1|| tad yathā mahāpatha ātata ubhau grāmau gacchatīmaṃ cāmuṃ caivam evaitā ādityasya raśmaya ubhau lokau gacchantīmaṃ cāmuṃ ca | amuṣmād ādityāt pratāyante tā āsu nāḍīṣu sṛptāḥ | ābhyo nāḍībhyaḥ pratāyante te 'muṣminn āditye sṛptāḥ ||2|| ... atha yatraitad asmāc charīrād utkrāmati | athaitair eva raśmibhir ūrdhvam ākramate | sa om iti †vā hod vā mīyate† | sa yāvat kṣipyen manas tāvad ādityaṃ gacchati | etad vai khalu lokadvāraṃ viduṣāṃ prapadanaṃ nirodho 'viduṣām ||5||*, "Now, these veins of the heart consist of the finest essence of orange, white, blue, yellow, and red. The sun up there, likewise, is orange, white, blue, yellow, and red. Just as a long highway traverses both the villages, the one near by and the one far away, so also these rays of the sun traverse both the worlds, the one down here and the one up above. Extending out from the sun up there, they slip into these veins here, and extending out from these veins here, they slip into the sun up there... But when he is departing from this body, he rises up along those same rays. †He goes up with† the sound 'Oṃ.' No sooner does he think of

also repeated in the *Kaṭha Upaniṣad* (6.16),[42] which speaks of the heart as possessing one hundred and one veins, one of which extends upwards and is the path to liberation:

> *śataṃ caikā ca hṛdayasya nāḍyas*
> *tāsāṃ mūrdhānam abhiniḥsṛtaikā |*
> *tayordhvam āyann amṛtatvam eti*
> *viṣvaṅṅ anyā utkramaṇe bhavanti ||*
>
> One hundred and one, the veins of the heart
> One of them runs up to the crown of the head
> Going up by it, he reaches the immortal
> The rest, in their ascent, spread out in all directions. (Trans. Olivelle 1998.)

This verse is important to the history of the yogic body, not only for the role of the heart but also for the idea of the soul's ascension through a central channel. It seems here that the other veins of the heart likewise extend beyond its confines, if this is the meaning of *viṣvaṅṅ anyā utkramaṇe bhavanti* ("The others, in their going forth, become pervasive"). A passage in the *Praśna Upaniṣad* (3.6–7) confirms this interpretation, linking the hundred and one channels of the heart to the body's entire network of *nāḍī*s:

> *hṛdi hy eṣa ātmā | atraitad ekaśataṃ nāḍīnām | tāsāṃ śataṃ śatam ekaikasyāḥ |*
> *dvāsaptatir dvāsaptatiḥ pratiśākhānāḍīsahasrāṇi bhavanti | āsu vyānaś carati ||6||*
> *athaikayordhva udānaḥ puṇyena puṇyaṃ lokaṃ nayati pāpena pāpam*
> *ubhābhyām eva manuṣyalokam ||7||*
>
> This *ātman* is within the very heart. Here there are one hundred and one channels.[43] Every one of these has a hundred [branches, each of which] has seventy-two thousand channels as side branches. In these flows the pervading breath (*vyāna*). Now, [upon death,] the *udāna* breath leads [a

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it than he reaches the sun. It is the door to the farther world, open to those who have the knowledge but closed to those who do not" (trans. Olivelle 1998; see his note on page 569 concerning the passage I have cruxed. The correct verb may be *nīyate* or *īyate*). See also the brief discussion in Olivelle 2006: 58–59. On the implicit soteriology of the *Chāndogya*, see Gerety 2021: 225–28, who develops some of the arguments advanced by White 2009.

[42] On the idea that the verse is original to the *Chāndogya* and a late addition to the *Kaṭha Upaniṣad*, see Takahashi 2019: 445, citing Weller 1953.

[43] Olivelle (1998: 465) understands *atra* ("here") to refer to the body, but both syntax and context point to the heart.

person] upwards by one of these [channels] to a virtuous world by virtue, to a sinful world by sin, [or] to the world of men by both.

The heart, abode of the soul, is in this conception the locus of one-hundred and one channels and the ultimate source of their vast network in the body—much like the navel of the much later *Suśrutasaṃhitā.*

Notably, none of the early Upaniṣads, barring the *Muṇḍaka*, compares the heart and its channels to a wheel, though some of the them apply the wheel metaphor to the vital air (*prāṇa*) or to the soul (*ātman* or *puruṣa*), whose locus is the heart.[44] It seems that the image of the heart as a wheel of ten spoke-like channels belongs to the centuries following the *Chāndogya Upaniṣad* (*circa* sixth–seventh century BCE) and *Kaṭha Upaniṣad* (probably having multiple strata, from the mid-first millennium BCE onwards), appearing first in the *Muṇḍaka Upaniṣad* (late first millennium BCE) and much later in the *siddhisthāna* of the *Carakasaṃhitā* (*circa* 300–500 CE). Elements of this idea appear in the *Mahābhārata* as well, much of which may belong to the period 200 BCE–300 CE, with ongoing additions.

Two different sections of the *Mahābhārata*'s *Śāntiparvan* (book 12) speak of the heart as the source of ten channels. In chapter 178, ten *nāḍī*s are said to emerge upwards, downwards, and sideways from the heart, distributing nourishment to the body. The navel, for its part, is the locus of the body's vital airs (*prāṇa*). Neither the heart nor navel is compared explicitly to a wheel.[45] While the text is vague on several points, Kenji Takahashi (2019) argues that the *Vārṣṇeyādhyātma* section (chapters 203–210) envisions the heart having in its center a channel called *manovahā* ("mind-conveyor"), from which ten primary channels (here called *dhamanī* or *sirā*) emerge. Countless other channels radiate outward from these, through which the mind freely roams (page 439). This model develops upon the Upaniṣadic theme of the soul's movement in channels

[44] As Olivelle (1998: 663) notes, the wheel metaphor appears in *Bṛhadāraṇyaka Upaniṣad* 2, 5.15 (which compares the *ātman*, the hub of all beings, to the nave of a chariot wheel), as well as *Praśna Upaniṣad* 2.6 (concerning *prāṇa*) and 6.6 (concerning the *puruṣa*).

[45] *Mahābhārata* 12, 178.14–16b: *pakvāśayas tv adho nābher ūrdhvam āmāśayaḥ sthitaḥ | nābhimadhye śarīrasya sarve prāṇāḥ samāhitāḥ || prasṛtā hṛdayāt sarve tiryag ūrdhvam adhas tathā | vahanty annarasān nāḍyo daśa prāṇapracoditāḥ || eṣa mārgo 'tha yogānāṃ yena gacchanti tat padam |*, "The receptable of digested food (*pakvāśaya*) is below the navel; the receptacle of undigested food (*āmāśaya*) is above. All the body's vital airs gather in the navel. Issuing from the heart sideways, upwards, and downwards, all the ten channels convey the nutritive essence of food (*annarasa*), propelled by the vital air. And this is the way (*mārga*) of the yogis, by which they reach the [ultimate] state." The translation of vv. 15–16b partly follows Mallinson & Singleton 2017: 187. Cf. Takahashi 2019: 440. On the possibility that *eṣa mārgo* refers to the central channel, see Takahashi (ibid.: 441), who considers this unlikely.

within and beyond the heart. It also reveals close, if indirect links to the *Carakasaṃhitā* in its terminology and views of physiology, as Takahashi (2019: 423–29) argues, making this "one of the early examples of interactions between Yoga tradition and medical tradition" (page 445). Points of congruence exist alongside considerable differences,[46] and the *Mahābhārata* itself preserves multiple views. Nonetheless, these two passages of the *Śāntiparvan* (178.14–16b and 207.16–19b[47]) cohere in general terms with the passages of the *Carakasaṃhitā* reviewed earlier, which describe the heart as a wheel of ten channels (*dhamanī*) and locus of the mind.

It seems possible now to conclude that the idea of the heart, seat of the soul and/or mind, as a wheel-like locus of ten channels branching out to pervade the body, was prevalent in the centuries just prior to and after the beginning of the common era, appearing in both religious and medical literature. This model has close connections with discourse on the heart and its channels in the earlier Upaniṣads. In this literature the navel receives minimal attention.[48] In contrast, the *Suśrutasaṃhitā* and *Aṣṭāṅgahṛdaya* view the navel as a primary organ and the source and hub of all the body's channels. As the review above shows, this is a development belonging more or less to the Gupta era, the early to middle centuries of the first millennium CE. What accounts for this shift in perspective is a matter of speculation. The *Suśrutasaṃhitā*'s view may be characterized as embryology-centered, being based on observation of the

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[46] See especially Takahashi 2019: 423–29 on congruences and differences between the terminology and concepts of the *Vārṣṇeyādhyātma* and *Carakasaṃhitā*.

[47] *Mahābhārata* 12, 207.16–19: *vātapittakaphān raktaṃ tvaṅ māṃsaṃ snāyum asthi ca | majjāṃ caiva sirājālais tarpayanti rasā nṛṇām* ||16|| *daśa vidyād dhamanyo 'tra pañcendriyaguṇāvahāḥ | yābhiḥ sūkṣmāḥ pratāyante dhamanyo 'nyāḥ sahasraśaḥ* ||17|| *evam etāḥ sirānadyo rasodā dehasāgaram | tarpayanti yathākālam āpagā iva sāgaram* ||18|| *madhye ca hṛdayasyaikā sirā tv atra manovahā | śukraṃ saṃkalpajaṃ nṝṇāṃ sarvagātrair vimuñcati* ||19||, "Nutritive essences [*rasa*] nourish the [three humours, namely] wind, bile, and phlegm, and [the body tissues, namely] the blood, skin, flesh, tendons, bones, and marrow of human beings via the network of channels. One should know that ten ducts here [in the body] convey the properties [i.e. perceptible subtle elements] from the five senses [to the mind]; from these extend other subtle channels by the thousands. In this way these river-like channels, whose waters are the nutritive essence, nourish the ocean of the body at the right time, like rivers the ocean. And there is one channel here in the center of the heart, the mind-conveyor. It releases semen, which arises from men's desire, through all the limbs." My understanding of this passage is indebted to Takahashi (2019: 424–25).

[48] More than a century ago, Brown (1921: 51) observed that "references to the navel are rare in the older Upanisads," while the much later Yoga Upaniṣads attach great significance to the navel, where it comes to be "the central and most important organ of the body." The so-called Yoga Upaniṣads are mostly late compositions drawing on the second-millennium Haṭhayoga corpus, as Bouy (1994) demonstrates.

navel's role as site of the umbilical cord,[49] the primordial channel through which fluids enter and permeate, as well as exit, the fetus. We may infer that the newer, Gupta-era medical view of the navel informs the *circa* 400 CE *Pātañjalayogaśāstra*: for Patañjali, the navel is a *cakra*, which in the context of the period must mean a wheel of channels (*nāḍī*). This remains the view of the navel in presentations of Śaiva tantric yoga two or so centuries later.

The lotus of the heart

Emphasis on the navel as a wheel-like array of channels did not entirely displace the earlier view of the heart as a nexus of channels. Nonetheless, a new image came to dominate the heart: that of the lotus flower. As with the wheel, the image of the heart as a lotus has roots in the Upaniṣads.[50] In explaining *Yogasūtra* 3.34 (*hṛdaye cittasaṃvit*; "When mastery is achieved with respect to the heart, knowledge of the mind arises"), the *Bhāṣya* glosses "heart" (*hṛdaya*) as "lotus of the heart" (*hṛdayapuṇḍarīka*) and then quotes this idea's classical locus, the *Chāndogya Upaniṣad*, remarking,

> *yad idam asmin brahmapure daharaṃ puṇḍarīkaṃ veśma tatra vijñānaṃ tasmin saṃyamāc cittasaṃvit* ||
>
> "Here in this fort of *brahman* there is a small lotus, a dwelling place"—therein lies knowledge; from mastery with respect to this arises knowledge of the mind.

This quotes without attribution from *Chāndogya Upaniṣad* 8, 1.1:

> *atha yad idam asmin brahmapure daharaṃ puṇḍarīkaṃ veśma daharo 'sminn antarākāśaḥ* || *tasmin yad antas tad anveṣṭavyaṃ tad vāva vijijñāsitavyam iti* ||
>
> Now, here in this fort of *brahman* there is a small lotus, a dwelling place, and within it, a small space. In that space there is something—and that's what you should try to discover, that's what you should seek to perceive. (trans. Olivelle 1998)

Multiple rich metaphors converge here. The fort (*pura*) of *brahman* is the body, while the lotus (*puṇḍarīka*) is the heart, dwelling place (*veśman*) [of the soul]. Within this lies a space (*ākāśa*) that holds the entire cosmos: "As vast as this space here all around us, // is

[49] The *garbhanāḍī* (*Suśrutasaṃhitā* 3, 10.9) or *garbhanābhināḍī* (*Suśrutasaṃhitā* 3, 3.31).

[50] For a general treatment of the heart in the Upaniṣads, see Olivelle 2006.

that space within the heart; // And in it are contained both earth and sky …".[51] This passage became profoundly important to Vedāntic theological and contemplative traditions as a key scriptural locus for the so-called *daharavidyā*, meditation upon *brahman* as the space in the heart-lotus.[52] Accordingly, it also lies near the beginning of a long line of reflection on *brahman* as "space" (*ākāśa*), and/or consciousness as such (*cidākāśa*, *cidambara*, etc.). In Vedāntic exegesis of scriptural loci for the *daharavidyā*, the concept of space overshadowed the image of the lotus, in contrast to tantric and related theistic forms of contemplation.[53] This may be since another key early scriptural passage, *Taittirīya Upaniṣad* 1, 6.1, speaks of the "space in the heart within" (*antarhṛdaye ākāśaḥ*) without invoking the lotus metaphor (cf. *Bṛhadāraṇyaka Upaniṣad* 4, 2.2). Despite making no reference to bodily channels, this passage of the comparatively early *Taittirīya* is significant to the history of yoga for suggesting a model of the soul's ascension from the heart and release through a fissure in the skull.[54]

As for early medical sources, the *Carakasaṃhitā* (6, 15.238) once compares the heart to a lotus. Caraka's simile has its basis in the idea that sunlight awakens both: *divā prabudhyate 'rkeṇa hṛdayaṃ puṇḍarīkavat | tasmin vibuddhe srotāṃsi sphuṭatvaṃ yānti sarvaśaḥ ||* ("The heart, like a lotus, awakens [i.e. blooms] by day on account of the sun. When it is awakened, the channels become completely open"). Suśruta (1, 46.530–31)

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[51] *Chāndogya Upaniṣad* 8, 2.3: *yāvān vā ayam ākāśas tāvān eṣo 'ntarhṛdaya ākāśaḥ | ubhe asmin dyāvāpṛthivī antar eva samāhite ||* …

[52] Concerning the *daharavidyā* as one of the *brahmavidyā*s of Vedānta, meditations on *brahman* rooted in specific passages of the Upaniṣads, see Uskokov 2022: 8–12. On the enduring significance of the *daharavidyā,* see for example Rao 2014 and Duquette 2014, which mainly concern the exegesis of Appaya Dīkṣita and other authors of mid-second millennium South India.

[53] On classical Vedāntic discussions of *ākāśa*, see for example *Brahmasūtra* 1.1.21–22, 1.2.11, and the commentary of Śaṅkara ad loc. For some later examples see Rao 2014 and Duquette 2014. Space, of course, did also become significant in some tantric contemplative traditions; see e.g. Flood 2023 concerning the "sky of consciousness" in nondual Śaiva contemplation. I thank David Monteserin Narayana (p.c.) for several of these references and a stimulating discussion.

[54] *Taittirīya Upaniṣad* 1, 6.1–2: *sa ya eṣo 'ntarhṛdaya ākāśaḥ | tasminn ayaṃ puruṣo manomayaḥ | amṛto hiraṇmayaḥ | antareṇa tāluke | ya eṣa stana ivālambate | sendrayoniḥ | yatrāsau keśānto vivartate | vyapohya śīrṣakapāle | bhūr ity agnau pratiṣṭhati | bhuva iti vāyau || suvar ity āditye | maha it brahmaṇi |* …, "In the space here within the heart lies the immortal and golden person consisting of the mind. And this thing that hangs like an udder between the two palates, it is Indra's passage. Bursting through the two halves of the skull at the point where the hairs part, he establishes himself in the fire by making the call *bhūr,* in the wind by making the call *bhuvas*, in the sun by making the call *suvar*, and in *brahman* by making the call *mahas* …" (trans. Olivelle, with a minor modification).

likewise speaks of the heart awakening by day and closing by night, like a lotus.[55] In essence, this is a physiological analogy based on the heart's response to daylight—the heart being the locus of the mind—rather than an anatomical comparison. This is notable, for a number of later sources vividly reference the heart's physical appearance when comparing it to a lotus. For example, commenting on the word heart (*hṛdaya*) in the *Bṛhadāraṇyaka Upaniṣad*, Śaṅkara (*circa* 700 CE) explains several times that this refers to a mass of flesh or muscle (*māṃsapiṇḍa*) whose form resembles a lotus (*puṇḍarīkākāra*).[56] His most detailed explanation appears ad *Taittirīya Upaniṣad* 1, 6.1:

> *... hṛdayam iti puṇḍarīkākāro māṃsapiṇḍaḥ prāṇāyatano 'nekanāḍīsuṣira ūrdhvanālo 'dhomukho viśasyamāne paśau prasiddha upalabhyate |*
>
> ... "Heart" means a mass of flesh in the shape of a lotus, a vital organ[57] that contains openings to many channels and faces downwards, with its stalk (*nāla*) upwards. This is well-established by observation while a sacrificial animal is being dismembered.

For Śaṅkara, the botanical metaphor is unambiguously anatomical: it references the heart's physical structure rather than function.

Any doubts one might have concerning the visceral nature of the heart-lotus metaphor are dispelled by Buddhaghosa in the *Visuddhimagga* (fifth-century CE), relatively close in time to the *Pātañjalayogaśāstra*.[58] In a painstaking account of thirty-two components of the body, he provides the following description of the heart (8.111):

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[55] *Suśrutasaṃhitā* 1, 46.530–31: *divā vibuddhe hṛdaye jāgrataḥ puṇḍarīkavat | annam aklinnadhātutvād ajīrṇe 'pi hitaṃ niśi || hṛdi saṃmīlite rātrau prasuptasya viśeṣataḥ | klinnavisrastadhātutvād ajīrṇe na hitaṃ divā ||*; this seems to mean, "Because the heart is open like a lotus during the day, eating is healthy at night, even when [an earlier meal] remains undigested, since the bodily elements of a person in the waking state are not affected by moisture. Because the heart is closed at night, when food [from the day] remains undigested, [eating the next] day is not healthy since the constituent elements of someone asleep are disordered by moisture." Dominik Wujastyk (p.c.) kindly took the trouble to confirm that these verses are present in the Nepalese recension of the *Suśrutasaṃhitā*, though several readings vary in the two manuscripts consulted.

[56] In his commentary ad *Bṛhadāraṇyaka Upaniṣad* 2, 1.19, Śaṅkara glosses the word "heart" (*hṛdaya*) with "a mass of flesh ... in the form of a lotus" (*... hṛdayāt—hṛdayaṃ nāma māṃsapiṇḍaḥ—tasmān māṃsapiṇḍāt puṇḍarīkākārāt, ...*). The comparison is repeated ad 4, 3.7 and 4, 3.22, and twice elsewhere, partially: the heart is described as a "mass of flesh" ad 4, 2.3, and compared to a lotus ad 4, 4.1.

[57] See n. 15 above for a list of the body's ten *prāṇāyatana*s (literally, "locus of vital air") according to the *Carakasaṃhitā*.

[58] Maas (2018: 52) draws attention to an account in the *Mahāvaṃsa*, a Pāli chronicle, according to which Pātañjala yoga was considered a tradition rivalling Buddhism around the end of the fourth century CE; it

Hadayan ti hadayamaṃsaṃ. Taṃ vaṇṇato rattaṃ padumapattapiṭṭhivaṇṇaṃ; saṇṭhānato bāhirapattāni apanetvā adhomukhaṭhapitapadumamakulasaṇṭhānaṃ, bahi maṭṭhaṃ anto kosātakīphalassa abbhantarasadisaṃ, paññavantānaṃ thokaṃ vikasitaṃ, mandapaññānaṃ makulitam eva...

> "Heart" means "heart flesh/muscle." By way of colour, it is red, the colour of the backside of a lotus petal. By way of shape, it has the shape of a lotus bud placed upside-down after removing the outer leaves. Externally, it is smooth; within, it resembles the interior of a loofah sponge gourd. For those possessing wisdom, it opens a little; for those of meager wisdom, it remains shut.

Continuing (8.111–13), Buddhaghosa explains that the heart's inner cavity (*āvāṭaka*) contains blood that is the support of the mind-element (*manodhātu*) and mental knowledge-element (*manovijñānadhātu),* and that this blood takes one of six colours according to a person's temperament: red for the passionate, dark for the wicked, the colour of meat rinse-water for the deluded, brown for the cerebral, pale yellow for the pious, and radiantly clear for the wise.[59] This trope of multiple colours recalls a theme found in early Upaniṣads and medical literature. Passages in the *Kauṣītakī* and *Bṛhadāraṇyaka* describe the channels of the heart as conveying bodily essences of five colours—white, dark blue or black (*nīla* or *kṛṣṇa*), tawny, yellow, and red[60]—while the *Suśrutasaṃhitā* (3, 7.18) attributes four different colours to bodily channels, according to whether they convey air (tawny), bile (dark blue), phlegm (white) or blood (red; see Wujastyk 2009: 208).

Buddhist doctrinal elements aside, this passage of the *Visuddhimagga*, together with Śaṅkara's remarks, lays bare the principal basis for the metaphor: the heart organ bears

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records the view that Buddhaghosa was a brahmin from Bihar and adherent of Pātañjalayoga, prior to becoming Buddhist. The account belongs to the comparatively late *Cūḷavaṃsa* section and is likely inaccurate concerning Buddhagosa's background (Maas 2018: 52 [n.2]).

[59] *Taṃ pan' etaṃ rāgacaritassa rattaṃ hoti; dosacaritassa kāḷakaṃ; mohacaritassa maṃsadhovana-udakasadisaṃ; vitakkacaritassa kulatthayūsavaṇṇaṃ; saddhācaritassa kaṇikārapupphavaṇṇaṃ; paññācaritassa acchaṃ vippasannam anāvilaṃ paṇḍaraṃ parisuddhaṃ, niddhotajātimaṇi viya jutimantaṃ khāyati* ("As for this [blood], it is red for the passionate, dark for the wicked, resembles water used to wash meat for the deluded, is the [brown] colour of horsegram soup for the cerebral, the [pale yellow] colour of bayur tree flowers for the pious, and clear, translucent, unstained, bright and very pure for a person of wisdom, resembling a radiant precious gem").

[60] See notes 36–37, 41 above.

a physical resemblance to a closed, upside-down lotus bud, reddish pink in hue with the outer petals stripped away. Its stalk (*nāla*) may be likened to the aorta. Although it is difficult to be sure, this view was likely operative for the redactors of the *Chāndogya Upaniṣad*, who, like Śaṅkara, would have been keenly familiar with the heart's appearance from the sacrificial tradition and aware that the organ is hollow inside—hence "the space within the heart" (*asminn antarākāśaḥ)*. The *Chāndogya* passage's richly polyvalent and beautiful symbolism is grounded all the same in tissues, fluids, and cavities.

The fate of the heart-lotus metaphor in the many centuries between the *Chāndogya Upaniṣad* and the Gupta-era *Pātañjalayogaśāstra* and *Visuddhimagga* is somewhat murky. Despite its prominent appearance in the *Chāndogya*, the metaphor surfaces infrequently in early religious literature. It is absent from other early Upaniṣads and also from the *Mahābhārata*, in its critical edition, though the vulgate text once describes Hari as "having his abode in the lotus of the heart" (*hṛtpuṇḍarīkanilayaḥ*).[61] The old *Yogayājñavalkya*, a little-studied Brahmanical treatise on yoga perhaps of the mid-first millennium, just once makes passing reference to the heart as a lotus.[62] References also appear in the *Maitrī* or *Maitrāyaṇīya Upaniṣad* (6.1–2) and the *Mahānārāyaṇa Upaniṣad*, works of the first millennium CE of uncertain dating. The *Maitrāyaṇīya*, which has a complex redactional history, may belong to the early to middle part of the millennium but with later additions.[63] A much-quoted passage in its sixth chapter (6.2) advances the homology of the self within the space of the heart-lotus (*hṛtpuṣkara*) with the sun, the self that is "the solar fire called time" (*agniḥ … sauraḥ kālākhyaḥ*).[64] As for the

[61] *hṛtpuṇḍarīkanilayaḥ sarvabhūtātmako hariḥ* ("Hari, who consists of all beings, has his abode in the lotus of the heart"); this belongs to a long passage appended at the end of *Mahābhārata* 12, 212.

[62] *Yogayājñavalkya* 9.123cd: *jīvaṃ vaiśvānaraṃ dhyāyed dhṛdaye padmasaṃpuṭe* |, "One should visualize the soul in the heart, in the enclosure of the lotus, as the Vaiśvānara fire."

[63] Van Buitenen (1962: 34–37) argues that the text represents the fusion of two originally distinct compositions brought together by an editor. 6.1–32, where most of the teachings on yoga are found, is the most problematic section; he argues that this contains a large number of accretions in the form of quotations and commentarial remarks. In his reconstruction, the nuclear text of 6.2 still includes references to the heart-lotus; see the next note. Mallinson (2014: 170) points out that passages on yoga in chapter 6 of the *Maitrāyaṇīya* contain ideas not elsewhere attested until the seventh century, such as a central channel named *suṣumṇā*.

[64] *Maitrāyaṇīya Upaniṣad* 6.2: *atha ya eṣo 'ntare hṛtpuṣkara evāśrito 'nnam atti sa eṣo 'gnir divi śritaḥ sauraḥ kālākhyo 'dṛśyaḥ sarvabhūtāny annam attīti* | [*kaḥ puṣkaraḥ kiṃmayaṃ veti* |] *idaṃ vāva tat puṣkaraṃ yo 'yam ākāśaḥ* | *asyemāś catasro diśaś catasra upadiśo dalasaṃsthāḥ* | *āsam arvāg vicarata etau prāṇādityau* | *etā upāsītom ity etad akṣareṇa vyāhṛtibhiḥ savitryā ca* ||, "That being which, abiding in the heart-lotus, eats food is the same as the fire which, abiding in the sky, the solar fire called time, invisible, eats all creatures for its food. [What

Mahānārāyaṇa Upaniṣad, which may be post-Śaṅkara (*circa* 700), two separate passages concern the heart-lotus. One verse (10.16) closely echoes *Chāndogya* 8, 1.1, while a longer section (13.7c–13) describes the heart as a downward-facing lotus bud (*padmakośa*) containing the entire universe. At its innermost core lies a minute luminous flame, abode of the supreme soul. Although not especially ancient, these passages became important scriptural loci for the *daharavidyā*.[65]

Two contrasting versions of the heart-lotus comparison thus emerge by the early centuries CE: a "physiological" analogy based on the heart's function, namely its response to sunlight, and an "anatomical" metaphor based on the heart's structure, i.e. its physical resemblance to a downward-facing, closed lotus bud. Given its visceral nature, it is surprising that religious, rather than medical literature, favoured the anatomical metaphor; there is no reliably early occurrence in extant Āyurvedic sources. I had initially assumed the classical medical locus for the anatomical heart-lotus metaphor to be *Suśrutasaṃhitā* 3 (*śārīrasthāna*), 4.32, in a chapter on the fetus. After introducing the heart as the locus of consciousness (*cetanā*), the source of channels (*dhamanī*) carrying vital air, and explaining that sleep occurs when the heart is "surrounded by darkness" (*tasmiṃs tamasāvṛtte*), the text adduces a verse apparently quoted from an earlier work:

> *bhavati cātra |*
> *puṇḍarīkeṇa sadṛśaṃ hṛdayaṃ syād adhomukham |*
> *jāgratas tad vikasati svapataś ca nimīlati ||*
>
> And on this matter there is [a verse]:
>
> "The heart resembles a downward-facing lotus; this opens while someone is awake, and closes while sleeping."

---

is this lotus? Of what kind is it?] For this heart-lotus is the same as the ākāśa. The four regions and the four intermediate regions constitute its leaves. Prāṇa and Sun progress downward along its stalk. Both are to be presented as the syllable Oṃ, with Syllable, vyāhṛtis, and sāvitrī" (text and trans. van Buitenen; square brackets indicate what he hypothesizes to be interpolations). Note the reference to the lotus possessing petals or leaves (*dala*) in the eight directions.

[65] *Mahānārāyaṇa Upaniṣad* 10.7 (ed. Jacob; 231–32 in the edition of Varenne [1960]) more or less summarizes *Chāndogya* 8, 1.1, but in verse. On the exegesis of 11.7c–13 (ed. Jacob; 247–260 in Varenne 1960), which includes the "flame verse" (11.13), see for instance Rao 2014. The idea of the luminous flame in the heart as locus of the supreme deity has parallels in one of the earlier surviving Śaiva *tantras*, *Vīṇāśikhātantra* 141–42 and 352c–54.

Both strands of the comparison here converge: the heart being lotus-like in its response to the sun, opening by day and closing by night; and its visual form resembling a downward-facing lotus bud. Yet the *Suśrutasaṃhitā*'s *circa* ninth-century Nepalese manuscript lacks this verse, which must have been added sometime prior to the twelfth-century commentary of Ḍalhaṇa.[66] Taking this into consideration, a patchy but consistent chronological picture emerges: only the physiological comparison is present in the earliest medical literature, while the anatomical metaphor apparently enters the corpus in the second millennium. It is absent from the *Aṣṭāṅgahṛdaya* and *Aṣṭāṅgasaṃgraha* (*circa* 600 CE) but shows up in much later sources, including Ḍalhaṇa's recension of the *Suśrutasaṃhitā* as well as the *Bhāvaprakāśa* of Bhāvamiśra (sixteenth-century).[67] Of course, the anatomical metaphor may have been used in early medical sources no longer extant.

We return now to the question of what the *Pātañjalayogaśāstra* means in referring to the "lotus of the heart" (*hṛdaya-puṇḍarīka*) in the *Bhāṣya* on *sūtra*s 1.36 and 3.1. However, full consideration of this problem requires taking into account a third version of the metaphor: the heart-lotus of tantric contemplation, attested in sources from around the sixth century CE onwards. Here the nature of the image differs fundamentally: the heart is envisioned as a blossoming, stylized lotus-flower, often white and with eight petals in the cardinal and intermediate directions, as though on a horizontal plane (rather than facing downwards). In this form, the heart serves as the seat or throne (*āsana, pīṭha, yogapīṭha*) of the deity, especially in the meditation known as "inner worship" (*antaryāga*), also called *hṛdyāga*, "worship in the heart," as well as *mānasayāga* ("mental worship"), etc. Its performance cuts across tantric traditions and time periods and may be elaborate or abbreviated to the minimum.[68] In inner worship, the deity is visualized in iconographic form seated in the center of the throne of the heart-lotus. Various parts of the lotus serve as loci for the deity's retinue, limb-mantras (*aṅga*), and

[66] I am grateful to Jason Birch (p.c.) for this observation, and to Dominik Wujastyk for stimulating correspondence on the subject.

[67] Wujastyk (2008: 219) cites a passage containing both the anatomical and physiological metaphors from the *Bhāvaprakāśa, pūrvakhaṇḍa, bhāga* 1, *prakaraṇa* 3, *garbhaprakaraṇa* vv. 75–77ab (page 27). On the text's dating, see Meulenbeld 1999–2002: vol. IIA, 246–47. The *Śārṅgadharasaṃhitā* (*circa* 1300) also makes passing reference to the heart-lotus (*hṛtkamala*) in I, 5.48c–49b (referred to in Meulenbeld: vol. IIA, 200): *nābhisthaḥ prāṇapavanaḥ spṛṣṭvā hṛtkamalāntaram || kaṇṭhād bahir viniryāti pātuṃ viṣṇupadāmṛtam |* ("The wind of the vital air located in the navel touches the inside of the heart-lotus, then exits outwards to drink the nectar of Viṣṇu's supreme state").

[68] See *antaryajana* in *Tāntrikābhidhānakośa*, vol. I (Brunner et al. 2000). See also, e.g., Sanderson 1995: 57–62; Goodall 2011; Rastelli 2002; Hatley 2020.

so forth; in the paradigmatic Śaiva version of inner worship, the eight petals and center of the heart lotus become loci of Sadāśiva's nine *śaktis* (from Vāmā to Manonmanī) as well as other sets of deities.[69] So transformed, the lotus of the heart becomes a divine *maṇḍala*.

For several reasons, the *Pātañjalayogaśāstra*'s expression *hṛdayapuṇḍarīka* (heart-lotus) seems most likely to reference the anatomical metaphor. The physiological comparison has no relevance to the context at hand, namely meditative concentration (*dhāraṇā*), and in elucidating the expression, the *Bhāṣya* quotes from its classical locus, *Chāndogya Upaniṣad* 8, 1.1, where the metaphor is probably anatomical (though not to the exclusion of other levels of meaning). As for the stylized heart-lotus of tantric contemplation, reliable evidence for this is lacking before the second half of the first millennium, and nothing in the *Pātañjalayogaśāstra* suggests this interpretation; it is not until Vācaspatimiśra's commentary of the tenth century that meditation of such kind is attested in Pātañjala yoga.[70] In other words, the *Pātañjalayogaśāstra*'s heart-lotus probably has more in common with the visceral image of Buddhaghosa, a near contemporary, than the blooming lotus of theistic contemplation. In context, *hṛdayapuṇḍarīka* appears to be a learned name for a body part, like *nābhicakra*, while simultaneously calling to mind an ancient tradition of contemplation.

In the second half of the first millennium, the idea of the heart-lotus became ubiquitous across the spectrum of religious literature, from Vedānta to Vaiṣṇava, Śaiva, Buddhist, and Jaina sources. It is often unclear what kind of comparison is intended. A trend is nonetheless evident: the heart-lotus became increasingly abstracted from anatomy, becoming more a blossoming multi-petaled flower than a reddish bud-shaped mass, though these images were never mutually exclusive. We see this shift already in *Maitrāyaṇīya Upaniṣad* 6.2, where the heart-lotus possesses eight petals in the cardinal and intermediate directions.

On the *Pātañjalayogaśāstra* and early Tantric Śaivism

In the foregoing, I have proposed an interpretation of the *Pātañjalayogaśāstra*'s references to the "wheel of the navel" and "lotus of the heart" based upon contemporaneous medical knowledge and views of the body found in religious literature. In these contexts, the wheel-metaphor signals a specific anatomical view,

[69] See e.g. *Pañcāvaraṇastava*, vv. 22–27; and Goodall et al. 2005: 20–26 and figs. 4–7.

[70] See Vācaspatimiśra, *Tattvavaiśāradī* ad *Pātañjalayogaśāstra* 1.36; his remarks are closely echoed in Vijñānabhikṣu's (sixteenth-century) commentary on the same *sūtra*.

namely that the navel (*nābhi*) is the ultimate source of the body's various ducts or channels; these emerge from the navel like spokes from the nave of a wheel, then branch out to pervade the body. Attested in the *Suśrutasaṃhitā* (early centuries CE), this conception seems to have displaced more ancient views emphasizing the heart's role as a nexus of channels, stemming back to the early Upaniṣads. Both the heart and navel have thus at various points been envisioned as *cakra*s, not in the manner familiar from Hindu and Buddhist tantric contemplative traditions, but in the anatomical sense of being wheel-like hubs of bodily channels. As for the heart, early sources also compare it to a lotus flower, and do so in two distinct ways: on one hand, we encounter a physiological analogy likening the heart's (and therefore the mind's) response to sunlight to that of a lotus, which blooms by day and closes at night; and on the other, an anatomical metaphor based on the heart organ's physical resemblance to a pinkish, downward-facing, closed lotus bud. A third image later joined these, apparently in the second half of the first millennium: the open, stylized lotus of tantric meditation, where the center of the blooming flower, the seat of the soul, also becomes the seat of the deity. I have suggested that the *Pātañjalayogaśāstra* likely had in mind the second, anatomical metaphor, a proposal solidly grounded in literature of the period.

These conclusions might appear to reinforce the gap long recognized to exist between Pātañjala yoga and tantric yoga. In fact this is true only in part. Our findings do confirm that cakra systems of the kind attested in second-millennium Hindu tantric yoga and Haṭhayoga, and in the Hevajra and Kālacakra systems of tantric Buddhism, are alien to the *Pātañjalayogaśāstra.* However, a different picture emerges by focusing on the earliest strata of Śaiva tantric literature, works of the sixth to eighth centuries CE. In this literature the "tantric body" differs in important ways from later models. In the dominant, more familiar model of Hindu tantric yoga prevalent in the second millennium, found in both Kaula and Haṭhayogic sources, shared features of the yogic body include an ascending series of six cakras or lotuses, from *mūlādhāra* at the base of the spine to *ājñā* between the eyebrows, transcended by a seventh, thousand-petalled lotus (*sahasrāra*) situated at the cranial aperture (*brahmarandhra*). These lotuses have specific numbers of petals, colours, presiding deities, mantra-syllables, associations with the five elements, and so forth. Three principal *nāḍī*s, channels for the vital air, span the body's vertical axis: *iḍā* and *piṅgalā*, on the left and right, respectively, with *suṣumṇā* in the middle. In *mūlādhāra cakra* lies the dormant serpentine energy, *kuṇḍalinī śakti*, which, awakened through yoga, rises up through the central channel, piercing the 'knots' (*granthi*) located at each of the cakras, releasing a shower of nectar when it

ascends to the top of the head, the place of Śiva. Despite many variations, this *kuṇḍalinī*-oriented yoga possesses a relatively stable core.[71]

Going back to the earliest surviving Śaiva *tantra*s, beginning with the *circa* sixth-century *Niśvāsatattvasaṃhitā*,[72] most of the salient features of this model recede from view. Arguably, early tantric Śaiva yoga has as much in common with Pātañjala yoga as it does with second-millennium *kuṇḍalinī yoga*s. As discussed earlier, the points in the body the *Niśvāsa* specifies for concentration, breath control and other yogic practices overlap significantly with those of the *Pātañjalayogaśāstra.* More pertinantly, a navel-wheel (*nābhicakra*) of precisely the kind referenced by Patañjali and attested in the *Aṣṭāṅgahṛdaya* and vulgate *Suśrutasaṃhitā*—a circular array of ducts or channels—features in the early Śaiva *tantra* corpus in sources such as the *Sārdhatriśatikālottara, Niśvāsakārikā*, *Mataṅgapārameśvara*, *Vīṇāśikhātantra*, and *Svacchandatantra*. While their dating and even relative chronology have yet to be established securely, these are among the earlier extant Śaiva *tantra*s, belonging to the sixth to early-eighth centuries and representing both Saiddhāntika (Sadāśiva-centered) and non-Saiddhāntika traditions. A reasonably coherent model of the body emerges in these and related sources. According to this model, the body's *nāḍī*s originate from the navel or from a bulb or tuber (*kanda, nābhikanda*[73]) somewhat below this. From the navel issues a wheel-like array of channels, ten (or more) being principal, which branch outwards to pervade the body. The heart is presented as a blooming lotus and sometimes simultaneously as a wheel of channels (a *nāḍīcakra*[74]). The heart-lotus sits upon the central channel, which extends upwards from the navel like a stalk. Usually possessing eight petals, the heart-lotus is home to the bee-like soul (*jīva,* etc.), which roams within and beyond the lotus, engendering a variety of psychic states and dispositions. Through yoga, the soul may ascend from the heart through the central channel to the fissure of the skull

[71] Sources on this yoga include, for example, chapter 24 of the *Śāradātilakatantra* (Bühnemann 2011), the *Matsyendrasaṃhitā*, the *Yoginīhṛdayadīpikā*, the *Rudrayāmala Uttaratantra*, and Haṭhayogic texts such as the *Śivasaṃhitā*, *Haṭhapradīpikā*, etc.; in the modern world, this yoga is best known from the *Ṣaṭcakranirūpaṇa* chapter of Pūrṇānandagiri's *Śrītattvacintāmaṇi*, a Kaula *paddhati* (ritual manual) from sixteenth-century Bengal, as translated into English by Sir John Woodroffe (2001) and his collaborators.

[72] Goodall et al. (2015: 71–3) propose that the five books of the *Niśvāsa* were composed over the course of a century or more, from as early as the mid-fifth to the beginning of the seventh centuries.

[73] See s.v. *nābhi* and *nābhikanda* in *Tāntrikābhidhānakośa*, vol. III (Goodall and Rastelli 2012).

[74] See s.v. *nāḍīcakra* and *nābhi* in ibid.

(*brahmarandhra*); transit through this leads to liberation, an obvious echo of *Chāndogya Upaniṣad* 8, 6.6 and *Kaṭha Upaniṣad* 6.16.[75]

Although the wheel-metaphor is applied to the navel, and sometimes the heart, this model's dominant image is botanical: the yogic body resembles a lotus possessed of a root or tuber (*kanda*), stalk, and flower. Two distinct metaphors from early religious and medical literature—the wheel and the lotus—thus converge in the body of early Śaiva tantric yoga. Such convergence makes it possible to understand why the imagery of wheels and lotuses came to be conflated in discourse on the tantric body. *Cakra* and words for lotus became largely interchangeable in the second millennium, with an important caveat: the lotus-image emerged triumphant over the wheel. Such conflation occurred over the course of several centuries and involved other critical developments, such as the spread of lotuses to points beyond the navel and the heart. These developments require separate treatment and will be elucidated in further studies on the history of the tantric body.

The two metaphors we have explored come together in the *Pātañjalayogaśāstra* from what appear to be different, though intertwined sources of knowledge. On one hand, the heart-lotus metaphor comes mainly from the speculative tradition represented by the Upaniṣads, which views the physical heart-organ as the locus of the soul. For its part, the idea of the navel as a wheel-like array of channels seems to be drawn from classical Āyurveda. Both metaphors, however, appear in both genres: a more abstract, physiological version of the heart-lotus comparison occurs in relatively early medical sources, while the wheel-image was applied to the heart in religious and medical sources long before its transferral to the navel. Early tantric representations of the body likewise draw on Āyurveda as well as the speculative and contemplative traditions. Thus in early Śaiva discourse on the body, categories drawn from classical medicine (*dhātu*s, humours, the digestive fire, embryology, channels, etc.) occur embedded in discussions of cosmology, breath-control (*prāṇāyāma*), and other topics proper to yoga. We see this unambiguously in the brief *[Śatika-]Kālajñāna* (vv. 49–89) and in the *Matańgapārameśvara* (*vidyāpāda*, chs. 20–23), tantric sources where discourse on the body is embedded in accounts of the material and subtle elements;[76] and in two roughly

[75] The main sources for this simplified summary are *Sārdhatriśatikālottara*, chs. 10–11; *Niśvāsakārikā, jñānakāṇḍa,* chs. 13 and 36; *Matańgapārameśvara, vidyāpāda* ch. 20; *Svacchandatantra*, chs. 2, 4 and 7; *Parākhyatantra*, ch. 14; and the *Vīṇāśikhātantra* (vv. 141–44, 352–55, etc). For a published account of the heart-lotus with a translation and detailed notes, see *Parākhyatantra* 14.53–61. See also Goodall 2011, whose sources include the (non-tantric) *Śivadharmottara*, ch. 10, and *Niśvāsakārikā, jñānakāṇḍa*, ch. 36.

[76] Cf. *Svacchandatantra* 7.1–35.

contemporaneous non-tantric Śaiva sources: ch. 176 of the Pāśupata-influenced *Skandapurāṇa*, in the cycle of chapters on yoga which completes the *purāṇa*, and the *Dharmaputrikā Saṃhitā*, a treatise on yoga displaying unusually detailed knowledge of physiology and classical medicine (Barois 2020). With the exception of Barois's (2020) study of the *Dharmaputrikā*, these fascinating accounts have received relatively little attention. Even so, it is not premature to propose that Śaiva tantric visions of the human body, and those of closely related theistic systems of the late first millennium, were more closely tied to contemporaneous medical knowledge than has previously been recognized.[77]

Acknowledgements

I would like to thank Jason Birch, Philipp Maas, James Mallinson, and Dominik Wujastyk for their stimulating feedback on this essay, which improved it in significant ways. Research for this study was funded by the Association Monégasque pour la Recherche Académique sur le Yoga (AMRAY), to whom I extend my thanks. Translations are the present author's except where noted. The title uses the phrase "early yoga" in the sense suggested by Gerety (2021: 209): "Indian yoga as reflected in Sanskrit texts from the Vedic period up through the middle of the first millennium CE."

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[77] Cf. the view of Wujastyk (2009: 191), who, having in mind sources of the second millennium, observes that "... the body described in Tantric circles had little or nothing in common with the body described in medical circles."

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CITATION

Hatley, Shaman. 2025. "The Wheel of the Navel and Lotus of the Heart: Metaphor, Medical Knowledge, and the Body of Early Yoga." *Journal of Yoga Studies* 6: 221-257. DOI: https://doi.org/10.34000/JoYS.2025.V6.005.