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Translating Touch in Āyurveda:  
Medicine, Sense, and Subjectivity in Early South Asia and Contemporary Kerala

by

Lisa Allette Brooks

A dissertation submitted in partial satisfaction of

the requirements for the degree of

Doctor of Philosophy

in

South and Southeast Asian Studies

and the Designated Emphasis in

Science and Technology Studies

and the Designated Emphasis in

Women, Gender, and Sexuality Studies

in the

Graduate Division

of the

University of California, Berkeley

Committee in charge:

Professor Lawrence Cohen, Co-Chair

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Professor Mel Chen

Professor Frederick Smith

Professor Alex von Rospatt

Summer 2021

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Abstract

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Doctor of Philosophy in South and Southeast Asian Studies  
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University of California, Berkeley

Professors Lawrence Cohen and Robert P. Goldman, Co-Chairs

This textual and ethnographic project engages touch as a hermeneutic to address questions of medical embodiment and expertise as represented in early first-millennium Sanskrit treatises, the *Carakasamhitā*, *Bhelasamhitā*, and *Suśrutasamhitā*, and in contemporary practice in Kerala. Through a study of the Sanskrit category of *sparśa* in Āyurvedic ontology, and touch more broadly in epistemology, diagnosis, and treatment, I demonstrate that touch establishes physicians' bodily and social boundaries, is a nexus for the performance of gendered medical expertise, and is central to communication between humans and non-human selves in the practice of leech therapy. The first main intervention of this study is methodological, as I attend closely to the situated expertise of medieval commentators and sensory experience of contemporary practitioners in my reading of the classical treatises. Second, I argue that the early Āyurvedic treatises articulate significant distinctions in practice, expertise, and bodily boundaries for surgeons and for general physicians in the early first millennium. These divergences evidence a greater sensory intimacy and prioritization of trained tactile skill on the part of surgical physicians in this period. Third, through an examination of tactile practices as represented in the classical treatises, this study demonstrates that specific types of trained touch can constitute forms of treatment and explores the ways that gendered expertise is incorporated into the texts. Fourth, I examine the ways that classical epistemologies are navigated by contemporary Āyurvedic physicians in Kerala through sensory negotiation and *yukti* (reasoning) in a terrain dominated by biomedicine. The final chapters present an ethnography of contemporary Āyurvedic leech therapy and a close reading of the practice as represented in the *Suśrutasamhitā* and Dalhaṇa's *Nibandhasamgraha*. Here, I challenge scholarship that locates medical agency primarily with physicians or patients and propose *vascularity* as an analytic for interspecies medical practice.

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## Sigla and Abbreviations

<i>AH</i>	<i>Aṣṭāṅgahṛdaya</i>
<i>ASaṃ</i>	<i>Aṣṭāṅgasaṃgraha</i>
<i>AS</i>	<i>Arthaśāstra</i>
<i>BS</i>	<i>Bhelasamhitā</i>
<i>CS</i>	<i>Carakasaṃhitā</i>
<i>HIML</i>	<i>A History of Indian Medical Literature (Meulenbeld)</i>
<i>KāS</i>	<i>Kāmasūtra</i>
<i>MDh</i>	<i>Mānavadharmasāstra</i>
<i>SS</i>	<i>Suśrutasamhitā</i>
<i>Sū</i>	<i>Sūtrasthāna</i>
<i>Ni</i>	<i>Nidānasthāna</i>
<i>Vi</i>	<i>Vimānasthāna</i>
<i>Śā</i>	<i>Śārīrasthāna</i>
<i>In</i>	<i>Indriyasthāna</i>
<i>Ci</i>	<i>Cikitsāsthāna</i>
<i>Ka</i>	<i>Kalpasthāna</i>
<i>Si</i>	<i>Siddhisthāna</i>
<i>Ut</i>	<i>Uttaratantra</i>

## INTRODUCTION

### Touch in Translation

In reading the early first-millennium South Asian Sanskrit medical compendium, the *Carakasamhitā* (CS), I am often struck by the practical elaborations offered by the treatise. To explain topics as varied as medicine preparation, where and how to build a hut for sweating, the protocol for medicinal smoking, or the prerequisites for medical practice, the treatise provides detailed instructions. For example, the chapter of the treatise that describes a healthy daily routine, outlines the benefits and contraindications for smoking, explains the timing for the practice, and gives the properties of different herbal formulations. The treatise then proceeds to detail the bodily procedures for smoking and constructing a pipe:

A person who is suited to smoking should smoke through the nose when there is a *doṣa* situated in the head, nose, or eyes.<sup>1</sup> When [the *doṣa*] is situated in the throat one should smoke through the mouth. One who has smoked through the nose should exhale through the mouth. A person puffing, smoking through the mouth, should not exhale through the nose. Indeed, smoke gone in the inverted direction [would] quickly injure the eyes. The self-possessed man with a mind focused on [smoking], eyes and body straight, correctly seated, having covered one nostril, should smoke three times through the nose. For purgative smoking, a pipe consisting of twenty-four thumb measurements (of the patient) is prescribed. For oleative smoking, thirty-two thumb measurements, [and] for the practice [of smoking regularly] an increase by half is prescribed. The praiseworthy pipe is measured at the tip by the kernel of a jujube (*kola*), has three joints, and is [made with] the same material as an enema tube.<sup>2</sup>

In this passage, the proper bodily practice for smoking—including specific procedures for engaging with smoke via one’s mouth, nose, and pipe—is described with precision. Read alongside the detail offered by other instructional passages in the *Carakasamhitā*, we might expect that a more common treatment, rubbing the body with oil (*abhyāṅga*) would also be delineated in the text. But even in this same section, *Sūtrasthāna* chapter 5, although the great benefits of rubbing with oil are expounded, the method for practicing *abhyāṅga* is not mentioned.<sup>3</sup>

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<sup>1</sup> The three Āyurvedic *doṣas*, or humors (literally “faults”) are *vāta*, *pitta*, and *kapha/sleṣman*, usually translated as wind, bile, and phlegm, respectively. In a balanced state, the *doṣas* are understood to be bodily constituents, *dhātus*. When they are out of balance, they become pathogenic factors.

<sup>2</sup> *dhūmayogyah pibed doṣe śiroghrāṇākṣisaṃśraye* || (CS Sū 5.46b)

*ghrāṇenāsyena kaṅṭhasthe mukhena ghrāṇapo vamet* |

*āsyena dhūmakavalān piban ghrāṇena nodvamet* || (CS Sū 5.47)

*pratilomaṃ gato hy āśu dhūmo hiṃsyād dhi cakṣuṣī* |

*rjvaṅgacakṣustacetāḥ sūpaviṣṭas tripariyayam* || (CS Sū 5.48)

*pibec chidraṃ pidhāyaikaṃ nāsayā dhūmam ātmavān* |

*caturviṃśatikaṃ netraṃ svāṅgulībhir virecane* || (CS Sū 5.49)

*dvātriṃśadaṅgulaṃ snehe prayoge ’dhyardham iṣyate* |

*rju trikoṣāphalitaṃ kolāsthyagraṃpramāṇitam* || (CS Sū 5.50)

*bastinetrasamadravyaṃ dhūmanetraṃ praśasyate* | (CS Sū 5.51a)

<sup>3</sup> See Chapter Four of this dissertation for a detailed discussion of *abhyāṅga*.

Although touch and tactile practices are ubiquitous in Āyurvedic medical diagnostics and treatment, description of what they entail is largely absent in the *Carakasamhitā*. What we do find in the general medical treatise, however, is a philosophy of the senses that ascribes a special status to the touch faculty. The treatise designates the touch faculty (*sparśana*) as “pervading” the other sense faculties (*indriyavyāpaka*). In contrast, a contemporaneous treatise focusing on surgery, the *Suśrutasamhitā*, contains ample instructions regarding surgical touch. Although the surgical treatise prioritizes sensory perception as a means of valid knowledge, unlike the general treatise, it does not emphasize the touch faculty as having a special role among the senses.

My observations of these lacune and dissonances within and across the *Carakasamhitā* and the *Suśrutasamhitā*, taken alongside secondary scholarship that typically engages them as presenting a unified theoretical basis for early Āyurveda, constitute one point of origin for this inquiry into touch in Āyurvedic medicine.<sup>4</sup> This project addresses Āyurvedic medicine as represented in these two earliest-preserved classical treatises, and as practiced in clinics where I conducted field research in contemporary Kerala. A second point of origin for this study is the question of what reading an ancient medical treatise, with a complex and largely unknown history of composition, redaction, and transmission, can tell us about the historical practice of medicine in the early first millennium. What reflections of practice can be found in this medical genre of technical literature (*śāstra*),<sup>5</sup> in treatises that are at once idealized, normative, and explicitly prescriptive? In order to get at questions of the bodily experience and practice of general and surgical physicians, I read texts and practice “*with* and *through*” touch.<sup>6</sup> My focus is on the touch of medical practitioners, in most cases physicians, but also of attendants, “experienced women,” leeches, and others.<sup>7</sup> A third point of departure is my own tactile experiences of touching a leech, and of training, giving, and receiving body-based therapies. These experiences opened me to questions about the nature of touch and of tactile training and skill, and about the ways that presence, absence, and types of touch constitute beings.

Touch is radically reciprocal and intersubjective, as Maurice Merleau-Ponty’s example of two hands touching illustrates the reversibility of subject and object.<sup>8</sup> But within this reciprocity resides possibilities of touching and not touching, “good touch and bad touch,”<sup>9</sup> and the potential violence of asymmetrical or unwanted touch. Noting the ways that touch and vulnerability are central to constituting intelligible human life, Judith Butler writes,

Bodies still must be apprehended as given over. Part of understanding the oppression of lives is precisely to understand that there is not a way to argue away this condition of a primary vulnerability of being given over to the touch of the other, even if, or precisely when, there is no other there, and not support for our lives.<sup>10</sup>

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<sup>4</sup> Wujastyk, *The Roots of Āyurveda*, xvi.

<sup>5</sup> Olivelle, “Explorations in the Early History of the Dharmaśāstra,” 169.

<sup>6</sup> Ahmed and Stacey, *Thinking Through the Skin*, 1.

<sup>7</sup> Selby, “Narratives of Conception, Gestation, and Labour in Sanskrit Ayurvedic Texts,” 272.

<sup>8</sup> Merleau-Ponty and Lefort, *The Visible and the Invisible*, 141.

<sup>9</sup> Jaaware, *Practicing Caste* 16. In his analytic of touch, Aniket Jaaware outlines the “elements” of physical and non-physical touch, as well as the “kinds” of touch, which include “good” and “bad” literal and figurative touch.

<sup>10</sup> Butler, *Undoing Gender*, 24.

Bodies given over to touch open to ethics, as illustrated by the work of “thinking through the skin” described by Sara Ahmed and Jackie Stacey. “Thinking through the skin is a thinking that attends not only to the sensuality of being-with-others but also to the ethical implications of the impossibility of inhabiting the other’s skin.”<sup>11</sup> It is within the simultaneity of one’s own situated vulnerability—the tangibility of our own experience of wanted, unwanted, and unperceived touch, of pain and pleasure—and the impossibility of knowing the tactile experience of another, that we are opened, in Donna Haraway’s terms, towards response-ability.<sup>12</sup>

*Translating Touch in Āyurveda* is a textual, historical, and ethnographic study of touch in Āyurvedic theory and practice. This project examines ways in which touch is represented as establishing physicians’ bodily and social boundaries, the performance of gendered medical expertise, and communication between human and non-human selves (focusing on leech therapy). The study makes four broad interventions. First, scholarship on early Indian medicine has often focused on theory, philosophy, and practice on a general level. By studying touch, my work foregrounds representations of physicians’ bodies and sensory practice in early medical practice. This allows me to expand upon the notion of early first-millennium Āyurveda as a relatively unified field and to demonstrate that the tradition articulates significant distinctions in practice, expertise, and bodily boundaries for surgeons and for general physicians. Second, expanding on scholarship arguing that Āyurvedic tactile oleation therapies function only to deliver substances into the human body, I show that specific tactile practices also constitute treatment.<sup>13</sup> Third, my study of the multi-species medical practice of Āyurvedic leech therapy provides a counterpoint to scholarship locating medical agency solely in the realm of the human. Instead, I show that in both ancient treatises and contemporary practice the figure of the leech challenges Āyurvedic classificatory schemes and that leeches play an agentic role in diagnosis and treatment.

Finally, I hope to demonstrate through this work the fruits of responsibly engaging with the past and the present in a transdisciplinary mode—engaging Sanskrit studies, medical anthropology, history of medicine, and queer feminist science and technology studies—to translate touch by reading *with* both commentators of the past and colleagues in the present. In each chapter, following Mel Chen’s work, I practice a transdisciplinarity of “animate crossings and changing disciplinary intimacies,” informed by my own ethic of responsibility, that I hope will illuminate questions of touch and being.<sup>14</sup> The chapters can be read in sequence, or as individual assemblages of primary and secondary literatures, ethnography, and interlocutors with whom literature or practice is read and engaged.

This study’s focus on “translating touch” is guided by both the ubiquity and primacy of touch in the early Āyurvedic treatises. For, as we shall see in Chapter One of this dissertation, touch is understood in the *Carakasamhitā* to mediate between the other senses and the mind in the process of perception. I am interested in touch as both abstract and concrete, in touch as a sense of uneven reciprocity and transformation, and in touch as a sense that is central to the practice and expertise of physicians. Outlining the reasons for engaging touch as an entry point into his study of caste through the act of “deliberate forgetting,”<sup>15</sup> Aniket Jaaware explains that

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<sup>11</sup> Ahmed and Stacey, *Thinking Through the Skin*, 7.

<sup>12</sup> Haraway, *When Species Meet*, 71.

<sup>13</sup> Zimmerman, “Gentle Purge,” 212.

<sup>14</sup> Chen, *Animacies*, 13.

<sup>15</sup> Jaaware employs the French term “*oubleirring*” to describe to describe the “deliberate forgetting or ignoring” that he sees as essential to yeilding new insights into caste. Jaaware, *Practicing Caste*, 16.

“there is a stronger reason as well, which is that touch is a material phenomenon, neither easily susceptible to an idealization that is essential to most philosophical discussions nor easily intelligible without such an idealization.”<sup>16</sup> This paradox of needing to engage with touch through an idealization of its materiality and the simultaneous impossibility of engaging its materiality with language is echoed in the tensions between philosophies and representations of practice found in the classical treatises. In the *Carakasamhitā*, touch is deeply theorized but practically elided, and the reverse is true of the *Suśrutasaṃhitā*. Drawing on McKim Marriott’s notion of the transactional “dividual” in early India,<sup>17</sup> Gerald Larson notes of touch in early Indian medicine,

Among the sense capacities those of touch and taste were of particular interest to the medical practitioners. The tactile sense would, of course, be the most important (see Caraka 1.11.38), since every sensation and perception presupposes some kind of contact and involves, therefore, some sort of tactile apprehension. Feeling or touch, therefore, is basic to symptomatology, and this is undoubtedly one of the primary reasons why the feelings of “pain” (*duhkha*) and “pleasure” (*sukha*) are so fundamental in Indian thought and culture. Almost as important, however, is the sense capacity of taste (*rasa*), for more than any other of the sense capacities, the sense of taste functions at the intersection of transaction between the natural world and the organism.<sup>18</sup>

Skin, as the abode of touch, is also a critical transactional site, one that is permeable and fluid, and as such, a nexus of, in Karen Barad’s terms, “intra-action” in the emergent mattering of bodies and world.<sup>19</sup>

Sensory historical scholarship has shown that the senses and their valuation are temporally, spatially, and culturally constructed, and that studying patterns in sensory representation gives insight into formations of racialized and gendered subjectivities.<sup>20</sup> As part of a turn away from linguistic constructivism and towards embodiment and materiality, David Howes argues that “the ‘senses’ in fact, are not just one more potential field of study, alongside, say, gender, colonialism or material culture. The senses are the media through which we experience and make sense of gender, colonialism, and material culture.”<sup>21</sup> In referring to the senses as the “media” for our experience Howes points to the ways in which the senses are central to subjectivation. Michel Foucault’s attention to disciplinary practices focused on the body provides an entrance to thinking about the link between discourse describing touch, and the

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<sup>16</sup> Jaaware, 29.

<sup>17</sup> McKim Marriott’s work proposes that in understanding personhood in India we need to think outside of Western “equivalence relations,” usually formulated via binarisms, and recognize that in the Hindu tradition “persons are composite and divisible (what Marriott calls ‘dividuals’)” and linked in what he calls “anti-equivalence relations” in that they are not fundamentally reflexive, symmetrical or transitive (consistent). Marriott, *India through Hindu Categories*, 17.

<sup>18</sup> Larson, “Āyurveda and the Hindu Philosophical Systems,” 255

<sup>19</sup> Karen Barad’s notion of “agential realism” explains matter as a process of becoming in intra-action: “matter is substance in its intra-active becoming—not a thing, but a doing, a congealing of agency. Matter is a stabilizing and destabilizing process of iterative intra-activity.” (Author’s italics.) Barad, “Posthumanist Performativity,” 814–15. See Chapter Five of this dissertation for a detailed discussion of intra-action.

<sup>20</sup> Smith, *Sensing the Past*, 5.

<sup>21</sup> Howes, *Empire of the Senses*, 4.

construction of gendered subjectivities in so far as discursively delineated practices may become embodied subjectivizing practices.<sup>22</sup> Highlighting the centrality of corporeal experience in the construction of medical knowledge and subjectivity, Shigehisa Kuriyama suggests, “Differences in the history of medical knowledge turn as much around what and how people perceive and feel (at once apprehending the body as an object, and experiencing it as embodied being) as what they think.”<sup>23</sup> This observation, emerging from his study of the “divergence” of ancient Chinese and Greek perceptions of the pulse in relation to culturally mediated notions of personhood, directs our attention to the intertwined nature of sensory regimes and epistemologies, and by extension, to constructions of subjectivity and social order as reflected and articulated in medical texts. In relation to early Indian philosophy, Victoria Lyssenko argues that the medium of the senses is the basis for a kind of elemental-cosmological subjectivity, which has its starting point in the human being,

and more precisely his/hers sense capacities to grasp some properties (stimuli) of the surrounding world and to communicate with it in different manners proper to the human psychosomatic structure. We can clearly see that this “subjectivity” forms the very basis of the system of five elements (*pañcabhūtas*): hearing and sound being related to *ākāśa* (ether, space), the sense of smell and smell being related to earth, the sense of taste and taste being related to water, sight and form-color (*rūpa*) being related to fire, the sense of touch and touch being related to, wind.<sup>24</sup>

The notion of a single, stable, binary gendered (“his/hers”) “psychosomatic structure” is one that I would challenge both existentially and in terms of the great diversity of Indian thought. However, this notion of subjectivity described by Lyssenko as hinging on sense capacity is one that we also find in early Āyurvedic literature and points to the inexorable imbrication, or contiguity of beings, senses, and cosmos.

James McHugh’s work on smell in early India demonstrates the fruits of adopting a sensory approach to the study of textual traditions that, like Āyurveda, represent disciplined knowledge and prescribe bodily practice. In *Sandalwood and Carrion*, he justifies his exploration of the seemingly “minor” topic of scent by showing that ideas about the sense of smell, and scents themselves, played a role in the thought-scape of pre-modern India. He does this both through an examination of philosophical discussions of smell, as well as “practical” aspects of smell as reflected by texts such as treatises on aromatics and medicine. McHugh demonstrates that smelling, scent, scent-based practices, and disciplined knowledge of aromatics function in the construction of specific social categories and relations, for example, the construction of the urban elite male type, the “man-about-town” or “cultivated man,”<sup>25</sup> and the fact that aromatics was a domain of disciplined and gendered knowledge usually suggesting a

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<sup>22</sup> Foucault, *Discipline and Punish*; Foucault, *The History of Sexuality*; Foucault et al., *The Hermeneutics of the Subject*.

<sup>23</sup> Kuriyama, *The Expressiveness of the Body*, 272.

<sup>24</sup> Lyssenko, “The Human Body Composition in Statics and Dynamics,” 32–33.

<sup>25</sup> McHugh, *Sandalwood and Carrion*, 130, 143–44. McHugh writes of the “cultivated man” (*vidagdha*) or “man-about town,” as represented in the erotic text, *Nāgarasarvasva* (“Complete Man-About-Town”). The *nāgara* or *nāgarika*, “man about town,” is a member of the urban elite who also figures prominently in the *Kāmasūtra*.



“male nose” and male field of expertise.<sup>26</sup> These observations gesture to the way that representation of the senses and their objects was important not just as a matter of philosophy but also as a central node in the construction of personhood and social identity. Representations of touch can function similarly. In her introduction to an edited volume on touch in early modern Europe, Elizabeth Harvey draws the essays together, observing, “tactility has organized knowledge and defined human subjectivity.”<sup>27</sup> For example, as Eve Keller’s essay in the volume shows, the written case histories of early eighteenth-century midwives portray shifting domains of practitioners’ gendered expertise as represented through descriptions of the type and efficacy of their touch (or non-touch) of patients.<sup>28</sup>

Early Āyurvedic treatises require attention to presence as well as absence. Some corporeal practices central to the Āyurvedic system of treatment are described in detail, while others are not. Why is this? Are certain practices lacking in description and explanation because they are “pervasive” and “taken for granted,” or because they exist outside of the domain of disciplined knowledge pertaining to the realm of the Āyurvedic physician?<sup>29</sup> As we will see, allowing our observations of touch in early Āyurveda to illuminate intellectual and cultural history requires a lateral reading—the gathering of disparate moments together—rather than a reading hinged to a linear narrative or dictated by the thematic divisions of the work. As Constance Classen suggests in composing a history of touch,

The corporeal practices and sensory values that define life may be so pervasive that they are taken for granted and left unmentioned. The history of touch is, consequently, often an inferred history. It must move sideways from a suggestive phrase to a characteristic practice to an informative artifact or site, and even inward to one’s own distinctive yet shared corporeal experience, rather than in a linear fashion from narrative to narrative, event to event. It is not a history from below. It is a cultural history of our deepest sense.<sup>30</sup>

In several of this dissertation’s chapters, as in Classen’s work, touch includes a range of sensations, including “heat, pain, pleasure, and movement”<sup>31</sup> and attention is paid to the intersensorial nature of touch, as sometimes the senses are represented as intertwined or inseparable from one another. Classen suggests that to write a history of touch one must also travel inwards to one’s own corporeal experience, an approach adopted by McHugh as he explored some of the recipes and materials he wrote about that were used in the distant past, for the preparation of perfumes and fragrant pastes. This provocation led me to attend seriously to the corporeal practice, experiences, and experimentations of the clinical practitioners with whom I worked, as well as my own.

This dissertation follows several overlapping schemas, moving from touch in Āyurvedic ontologies and epistemologies, to touch in diagnosis and treatment. More broadly, the work

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<sup>26</sup> McHugh, 147.

<sup>27</sup> Harvey, *Sensible Flesh*, 2.

<sup>28</sup> Keller, “The Subject of Touch.”

<sup>29</sup> In asking these questions I am not forgetting the layered nature of the composition of these treatises, which I will discuss below, nor their transmission to us through manuscripts bearing their own histories of scribal emendation and error.

<sup>30</sup> Classen, *The Deepest Sense*, xvii.

<sup>31</sup> Classen, xiv.

moves from the ontological to the epistemological and, engaging feminist Science and Technology methodologies, into the explicitly onto-epistemological. This final move was informed by my intra-action with leeches in a clinic—by my experience of touching and being touched by a wriggling leech. My attempts to understand, to theorize, the unfolding of leech therapy sessions became a part of the entangled relations of humans and leeches in the clinic. I stumbled, fingers-first, into what Barad explains as “collaborative research,” or research through which doing and being are recognizably transformed:

Theorizing a form of experimenting is about being in touch.... All life forms (including inanimate forms of liveliness) *do* theory. The idea is to do collaborative research, to be in touch, in ways that enable response-ability.<sup>32</sup>

In engaging with the topic of touch so central to the theorizations and practices of Āyurvedic medicine, I have heeded this provocation towards collaborative research and response-ability.

I embarked upon a Fulbright Hays DDRA grant (2015–2016) in India focused on touch in early first-millennium Āyurveda as represented in the early classical treatises. After this initial period, I spent an additional year in India and my study shifted to include a consideration of touch in contemporary Āyurvedic medicine as practiced in specific contexts in Kerala. The time I spent reading and studying with Āyurvedic physicians often took place in the clinic between patient consultations, and it was in this environment that my work evolved to include ethnography. During this latter period, my ethnographic research focused on the entanglements of leech therapy in a clinic in Southern Kerala. As such, my work engages the distant past and the present, as well as the ways that the past is imagined and can be read through and with present engagements.

### **Translating Touch**

So, how does one translate touch? What does transdisciplinary translation entail? As an ethical means to approach these questions of method I understand translation as an act of worlding. In Anna Tsing’s terms, worlding entails consciously delimiting the actants and spaces and questions that inform the study by intersecting one’s own terms of inquiry with those of one’s “informants,” here, including texts as well.<sup>33</sup> Worlding enables an analyst to “imagine the relationality of worlds that are self-consciously unfamiliar,”<sup>34</sup> addressing the problem of incommensurability in translation.<sup>35</sup> For Gayatri Spivak, the problem of incommensurability takes the form of a “bilingualism” entrenched in an asymmetrical political economy of geography, economy, and gender. As Spivak notes,

All we have is bilingualisms, bilateral arrangements between idioms understood as

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<sup>32</sup> Barad, “On Touching—the Inhuman That Therefore I Am,” 208.

<sup>33</sup> Tsing, “Worlding the Matsutake Diaspora,” 50. In developing her method of “worlding,” Tsing is concerned with the issue of context. On one hand, classical actor-network theorists reject the notion of context as it assumes a background against which preexisting entities interact, and thus they redefine the “social” as a network of mutually constitutive agencies. Anthropologists, according to Tsing, enact different forms of holism through embrace of a chosen contextual frame. Tsing proposes an approach called “worlding” which toggles back and forth between a context-bound and “anticontext” approach.

<sup>34</sup> Tsing, 50.

<sup>35</sup> Tsing, 62.

essentially or historically private, on the one side, and English on the other, understood as the semiotic as such. This is the political violence of translation as transcoding, the contemporary translation industry about which many of us write.<sup>36</sup>

For Spivak, ethics and “cultural politics” are not enough to ensure an effective translation. Rather, one must make a commitment to multiple histories, including “the history of the language, the history of the author’s moment, the history of the language-in-and-as-translation, must figure in the weaving as well.”<sup>37</sup> Explaining the intimacy of language translation in relation to her work translating stories of the Bengali writer Mahasweta Devi, Gayatri Spivak writes of the ways that the translator as subject is something that “happens” through, “this shuttling translation, from inside to outside, from violence to conscience: the production of the ethical subject.”<sup>38</sup> Spivak describes the link between translation and subjectivation, as well as between hearing and translation—that one must “hear-to-respond” as the impetus to translate. We can extend this to hearing through reading across space and culture, perhaps time, and even through commentaries, as in my own work. Translation can be formative of new kinds of subjects, as well as new kinds of theory, as Judith Butler’s notion of “cultural translation” illustrates.

The point is not to assimilate foreign or unfamiliar notions of gender and humanness into our own as if it is simply a matter of incorporating alienness into an established lexicon. Cultural translation is also a process of yielding our most fundamental categories.... But rather, *translation will compel each language to change in order to apprehend the other*, and this apprehension ... will be the occasion for both an ethical and social transformation.<sup>39</sup>

The inherency of mutual transformation informs my translations of Sanskrit (and in places, Malayalam) into English, my approach to working with Āyurvedic physicians in Kerala, and my engagements with cultural translation through time. In my translations from Sanskrit to English, I avoid anachronistic medical terms, and try to preserve the flavor and structure of Sanskrit in a way that intelligibly transforms the English translation.

In order to attend to these asymmetries, my sensory hermeneutic of translating touch attends to the embodied and “situated knowledges” of practitioners to think, read and translate *with*.<sup>40</sup> Just as one might read first-millennium Āyurvedic Sanskrit treatises aided by the work of commentators—for example the early medieval medical authors Cakrapāṇidatta or Ḍalhaṇa, cited in this dissertation, who either were medical practitioners themselves or came from families of practitioners—my method is informed by the sensory expertise, concerns, and observations of the Āyurvedic physicians with whom I worked most closely. As Robert Goldman suggests of reading Sanskrit texts with the “expert guidance” of medieval commentators,

For surely, I reasoned, they were, if not omniscient and infallible interpreters of these works, at least much closer in time and cultural sensibility to the authors of the primary texts than we were. Might they not then be able to help us better to understand these

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<sup>36</sup> Spivak, “Translation as Culture,” 16.

<sup>37</sup> Spivak, “The Politics of Translation (1992),” 375.

<sup>38</sup> Spivak, “Translation as Culture,” 14.

<sup>39</sup> Butler, *Undoing Gender*, 38.

<sup>40</sup> Haraway, “Situated Knowledges.”

works in their complex roles in the formation of the Sanskrit based intellectual universe?<sup>41</sup>

The *Carakasamhitā* and *Suśrutasaṃhitā* are sometimes clear but often cryptic. Reading them involves inquiry into technical medical vocabulary and concepts. As Goldman suggests, reading with commentators involves attentiveness to historical context and situated identity and it also attends seriously to their observations, interpretations, and concerns in relation to the concepts presented in the early treatises. Reading with practitioners requires the same attention to positionality, history, and context.

The practice of reading *with* does not entail an easy continuity between treatises of the deep past and scholars or practitioners in other time periods, especially the present. Āyurvedic medicine in Kerala has long history of practice across religious and caste communities.<sup>42</sup> The promulgation of Sanskrit treatises in institutionalized Āyurvedic medical education emerged from the community-specific ways that anti-colonial nationalist movements and regional forms of governance engaged with Orientalist notions of the “scientific” nature of Sanskrit and Sanskritized knowledges.<sup>43</sup> K. N. Panikkar argues, through the example of Aṣṭavaidyān P. S. Variar, that the dominant “revitalization” movement in Kerala involved not only contestation of “colonial cultural authority,” but also prioritization of Sanskrit and English knowledges, emphasizing forms of literacy that marginalized practitioners of popular medicine.<sup>44</sup> Burton Cleetus’s study of the role played by the princely state of Travancore (located in what is today southern Kerala) in the “indigenous therapeutic reorganization” shows that the consolidation of a Sanskrit corpus for institutionalized medical education was a critical part of the attempt to articulate an Indian “science” holding the epistemic weight of “Western science and medicine.”<sup>45</sup> The practice of institutional Āyurvedic medicine in engagement with classical treatises privileged social elites. But it was also taken up by upwardly aspiring social groups, for example the Ezhava community, which had longstanding traditions of medical practice.<sup>46</sup> As Projit Mukharji’s notion of “braided traditions” aptly illustrates, this history indicates that what I am calling “Āyurvedic medicine” is not a stable, bounded entity, rather, it is constituted by situated actors’ selective braiding of strands of knowledge and practice reconfigured by the very act of braiding.<sup>47</sup>

As Anthony Cerulli has noted, shifts from local *gurukula* lineages of Āyurvedic medical education to institutionalized Āyurveda with a common syllabus defined by the Central Council for Indian Medicine (CCIM) in 1977 enacted an “integrationist” mode of medical education on a national level (Cerulli 2018). This policy emerged from a long and variegated history of debates

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<sup>41</sup> Goldman “How Fast Do Monkeys Fly,” 8.

<sup>42</sup> Abraham, “From Vaidyam to Kerala Ayurveda”; Menon, *Hereditary Physicians of Kerala*; Panikkar, “Indigenous Medicine and Cultural Hegemony,” 302.

<sup>43</sup> Cleetus “Western Science, Indigenous Medicine and the Princely States”; Panikkar, “Indigenous Medicine and Cultural Hegemony.”

<sup>44</sup> Aṣṭavaidyān P. S. Variar was the founder of the Kottakal Arya Vaidyashalya and permanent secretary of the Arya Vaidya Samajam, an organization that undertook the regulation of Āyurvedic education and practice in Kerala at the turn of the last century under the patronage of the Maharajas of Travancore and Cochin and the Samuthiri of Calicut. Panikkar “Indigenous Medicine and Cultural Hegemony,” 308.

<sup>45</sup> Cleetus, “Western Science, Indigenous Medicine and the Princely States,” 17.

<sup>46</sup> Abraham “Sociology of a Regional Medicine”; Cleetus, “Subaltern Medicine and Social Mobility.”

<sup>47</sup> Mukharji, *Doctoring Traditions*, 26–27.

among communities of physician-scholars in different regions of India. For example, Mukharji's work demonstrates that in the case of influential physician-intellectuals in nineteenth and early twentieth-century Bengal, understanding the fault lines of debates as splitting along the lines of "pure" or "integrationist" agendas overlooks their undergirding by negotiation of patronage relations and mobilization of specific *jāti* and religious communities.<sup>48</sup>

Āyurvedic physicians educated in contemporary Kerala are the product of this "integrationist" educational policy, incorporating the study of classical Āyurvedic Sanskrit treatises with efforts to modernize and biomedicalize Āyurvedic medicine.<sup>49</sup> Physicians' experience of practice and teaching navigates what Lawrence Cohen has called an "epistemological carnival," and entails a "sensory negotiation" between "modern medicine" and "the science" (the terms my colleagues used to refer to biomedicine and Āyurveda, respectively).<sup>50</sup> However, many of the practitioners I spoke with in Kerala sought out additional training, perceiving the syllabus as inadequate to practice, and as a north Indian homogenizing imposition onto a landscape of diverse regional healing practices. Some of them, like the physicians represented in Cerulli's historical and ethnographic study of *gurukula* education in Kerala, engaged further with the classical Sanskrit treatises, most commonly the *Aṣṭāṅgahrdaya*.<sup>51</sup> Others prioritized training in southern non-Sanskritic healing arts such as massage and vital point (*marmam* (Mal.)) therapy of the martial art form *kaḷarippayattū* and the related Tamil Siddha medicine vital point and pulse diagnosis traditions.<sup>52</sup>

Take for example, my colleague Dr. Arun, a professor of Āyurvedic anatomy whose work informs my inquiry into surgical sensory knowledges in the *Suśrutasamhitā* in Chapter Two of this dissertation.<sup>53</sup> His personal and professional lives straddle religion and caste boundaries, and combine the approaches described above. He has apprenticed with several senior physicians (*vaidyas*) who practice regional blended styles of medicine, engaging Malayalam medical texts and the southern Indian healing arts mentioned above alongside biomedical scholarship on anatomy and fascia. Experimenting with the *Suśrutasamhitā* is only one of many ways that Dr. Arun studies the human body, an in turn his bodily experiences inform his understanding of the treatise. Thus, his sensory experience informs his evolving interpretation of the treatise. In McHugh's discussion of the ways that his own attempts to evaluate and describe aromatic woods led him to appreciate the challenges faced by experts in the past in their sensorial assessment of the identity, quality, and authenticity of materials,<sup>54</sup> he observes,

It is when we realize that knowledge of the texts needed to be joined to practical training that we can see the significance of the evaluator's senses: this valuable knowledge is

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<sup>48</sup> Mukharji, 75.

<sup>49</sup> Cerulli "Politicking Ayurvedic Education," 302.

<sup>50</sup> Brooks "Epistemology and Embodiment"; Cohen "The Epistemological Carnival." For a historical treatment of this terminology, refer to Mukharji, *Doctoring Traditions*, 28–30.

<sup>51</sup> Cerulli "Politicking Ayurvedic Education."

<sup>52</sup> Leena Abraham's work among contemporary Ezhava and Brahmin Āyurvedic physicians demonstrates that "lineage medicine" taking the form of apprenticeships provides an essential avenue for BAMS graduate physicians to learn "lineage therapies" and medicine manufacture in order to adapt and successfully practice Āyurvedic medicine. Abraham, "Sociology of a Regional Medicine," 290–294.

<sup>53</sup> Dr. Arun is a pseudonym.

<sup>54</sup> McHugh, *Sandalwood and Carrion*, 182.

knowledge about matter, the link between the knowledge and the matter being the body and in particular the senses.<sup>55</sup>

Likewise, Dr. Arun's work encourages us to continue to read closely for sensing bodies in the construction of surgical embodiment and tactile expertise in early Āyurvedic treatises.

The current Hindu nationalist government of India, which draws upon an imagined continuity between Vedic culture, Sanskrit language, and the religious communities that are often lumped under the term Hindu today, engages an exclusionary vision of India that has been employed to violent ends. Drawing on Simona Sawhney's study of activist readings of Sanskrit literature (for example by Rabindranath Tagore and M. K. Gandhi) to understand the practitioner-scholars he worked with, Cerulli explains that sometimes, engagement with Sanskrit may not be aligned with this vision: "However the Sanskrit literature is deployed, as a cultural icon or as a direct conduit for healing, we might recognize its use as a type of activist negotiation of the inheritance of biomedicine in India."<sup>56</sup> I view Dr. Arun's reading of Suśruta in this way. His ongoing experiments with hydro-dissection are a means to navigate the bodily engagements and dangers (e.g., formaldehyde over-exposure) of dissection as well as the intellectual strands that he integrates in his work.

Banu Subramaniam proposes a tactile image of plant thigmotropism to illustrate the intertwining tendrils and crossings over of "Western science" and "Indian cultural and knowledge landscapes" that have led to an uneven weave. She asks, "If the colonized and the postcolonized are forever to write in the language of the colonizer, is much lost in this translation?"<sup>57</sup> Here, I extend this question into consideration of the specific ways that practitioner-scholars I worked with engaged their own "temporal imagination[s]" as key elements of their medical or "scientific practice."<sup>58</sup> Mukharji's study of the plant Vishalyakarani demonstrates that "historicizing" the politics and dynamics of plant (dis-) identification—rather than seeking a stable history or identification for a particular material entity—is a process that "actually seeks to map the pasts in relation to the futures they produce."<sup>59</sup> The potentiality of touch and skin in being part of this work, of redefining relations to the past and opening to new futures, is described by Ahmed and Stacey.

This relationship to the past, which is neither simply absent nor present on the surface of the skin, is hence also an opening up of a different future. It is precisely by paying attention to the already written, to what has already taken shape (for example, the colonial, racialised and sexed histories of touch as ownership and possession) that one can open up that which has yet to be written, and even touch the skin that has yet to be lived.<sup>60</sup>

Rather than understanding my colleagues' engagements with classical treatises as citing a form of colonial or even post-colonial Indological scholarship reductively valorizing Sanskritic

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<sup>55</sup> McHugh, 195.

<sup>56</sup> McHugh, 328.

<sup>57</sup> Subramaniam, *Holy Science*, 30.

<sup>58</sup> Mukharji, *Doctoring Traditions*, 82.

<sup>59</sup> Mukharji, "Vishalyakarani as *Eupatorium ayapana*," 80.

<sup>60</sup> Ahmed and Stacey, *Thinking Through the Skin*, 16.

knowledges, I understand their readings and tactile explorations of the treatise as expanding and redefining their bodily futures as practitioners.

### Touch in Treatises

Now we turn more concretely to the question of translating touch in the classical treatises. The early Āyurvedic compendia were written over a number of centuries and by several authors, and in some cases they share similar attitudes with other roughly contemporaneous *śāstric* texts.<sup>61</sup> They were well known, and as Cerulli notes, “the medical literature of Āyurveda played an important role in the production of knowledge about religion, philosophy, and literature in Indian history.”<sup>62</sup> A passage of commentary on the *Carakasamhitā* by the famous eleventh-century medical writer Cakrapāṇidatta illuminates the treatise’s intertextual nature. His commentary on *Carakasamhitā Sūtrasthāna* 8.3 addresses the apparent discrepancy of the *Carakasamhitā*’s description of the sensory system, comprising five sets of five, as opposed to elsewhere—both within the treatise and in other philosophical systems—where the sensory system has eleven elements. Cakrapāṇidatta writes,

Since this treatise is connected with all schools of thought, with the different schools of thought, such as Vaiśeṣika and Sāṃkhya, etc. being in non-opposition to Āyurveda, the sense is that the divergent view being presented does not entail a contradiction between the former and latter.<sup>63</sup>

Given the manifold nature of these treatises, their length, renown, and their interconnectedness with the intellectual landscape of their time, they are an important storehouse of cultural information.

Yet, how are we to understand the relationships between *śāstric* medical treatises and cultural history, or between text and bodily practice? Drawing on Āyurvedic texts as sources of both cultural and intellectual history, Dagmar Wujastyk argues that there is a relatively consistent and unchanging system of medical ethics articulated in major Āyurvedic treatises over the first millennia, a time that we know involved much warring between competing kingdoms as well as shifting political borders and allegiances.<sup>64</sup> She finds this in accordance with Sheldon Pollock’s argument that part of the authoritative appeal of first-millennium Sanskrit literature, and in particular *śāstric* literature, is its anonymity or pseudonymity and its ahistoricity, as *śāstra* invariably establishes divine authority through linking itself to Vedic authority.<sup>65</sup> Wujastyk explains, “While actual ethical guidelines may not have applied to a physician’s actual practice of medicine, they would still have had a vital function for medical practice in establishing the status of medicine and of physicians in society.”<sup>66</sup> Her establishment of a relatively consistent medical

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<sup>61</sup> For example, see Martha Selby’s discussion of the similarities in idea about women and reproduction in Āyurveda and *dharmaśāstra* (codes of dharma, often understood as “legal” texts) in “Narratives of Conception, Gestation, and Labour,” 256.

<sup>62</sup> Cerulli, *Somatic Lessons*, 9.

<sup>63</sup> ...yataḥ sarvapāriṣadam idaṃ śāstram, tenāyurvedāvīruddhavaīśeṣikasāṃkhyādidarśanabhedena vīruddhārtho ’bhidhīyamāno na pūrvāparavīrodham āvahaṭīty arthaḥ | *Carakasamhitā*, 55.

<sup>64</sup> Wujastyk, *Well-mannered Medicine*, 4. I will address questions of the dating and history of the texts below.

<sup>65</sup> Wujastyk, 6. Here Wujastyk is citing Sheldon Pollock, *The Language of the Gods in the World of Men*.

<sup>66</sup> Wujastyk, 7.

ethic across Āyurvedic treatises impels us to mind the gap between text and practice, and renders problematic an approach attempting to link texts, bodily practice, and a social history of the senses. Yet Wujastyk does not hesitate to draw conclusions that further our understanding of first millennium Indian cultural history, for example concluding that there was a social landscape of competing schools of physicians based on narratives emphasizing the distinction between classes of physicians and between legitimate medical practitioners and quacks.<sup>67</sup>

The normative consistency of the treatises may enable work along the lines of Classen's concern with studying changes in "practices and beliefs involving touch over the *longue durée*."<sup>68</sup> However, consistency in the realm of medical ethics does not mean that there is consistency in other areas, as evidenced by incredible variation in details of manuscripts that are only now beginning to be studied as part of the compilation of a critical edition of two books of the *Carakasamhitā*.<sup>69</sup> While early Āyurvedic works bear similarities to other types of *śāstra*, Pollock finds them to be an exception to the rule that *śāstra* as "theory" is always regarded as holding precedence over *prayoga*, "practical activity." Rather, the *Carakasamhitā* and *Suśrutasamhitā* posit a reciprocal relationship between theory and praxis.<sup>70</sup> As we shall see in Chapters Two and Three of this dissertation, this relationship is not construed in the same way across these two treatises, with the *Suśrutasamhitā* emphasizing the essential nature of practical knowledge above, and as a supplement, to textual or authoritative knowledge.

Taking a sensory approach can also bring into relief the intertwined representations of gender, social status, sexuality, and touch in the early Āyurvedic treatises. Stephanie Jamison's work provides us with an entry point for consideration of gender in early India, as she emphasizes that by working with texts we cannot really get to an understanding of the historical experience or "social conditions" of "women 'Between the Empires'" but we can "read between the lines" to learn about "indirect but telling attitudes about certain social attitudes and facts."<sup>71</sup> While Jamison's own historical linguistic work hinges on chronology and constructing a historical narrative of change over time, her suggestion to "read between the lines" is helpful in alerting us to examine descriptions of touch, as well as their absence. Following Jamison, Martha Selby's articles on women in early Āyurvedic medical treatises suggest that through a careful reading we can begin to recover "the 'conceptual position' of women, as objects of practice, but also as medical 'actors' in and of themselves."<sup>72</sup> Selby argues that "narratives of conception and gestation" in the treatises contain descriptive evidence of women's somatic experience as well a category of "*āptah striyah*," which Selby translates as "experienced women"<sup>73</sup> and "accomplished women,"<sup>74</sup> perhaps midwives, present at the birthing process. Selby's attention to somatic clues in the treatise's birthing narrative stops where mine begins, in Chapter Four of this dissertation, as the delivery of the afterbirth is the first intrusion of a detailed description of touch into a text that has already prescribed the use of touch-based therapies a hundred times over with limited elucidation. Cerulli's findings for the *Kaśyapasamhitā*, a seventh-century text on childbirth and pregnancy, are in opposition to what Selby has encountered in the *Carakasamhitā*

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<sup>67</sup> Wujastyk, 4.

<sup>68</sup> Classen, *The Deepest Sense*, xiii.

<sup>69</sup> See Wujastyk et al., *Medical Texts and Manuscripts in Indian Cultural History*, ix.

<sup>70</sup> Pollock, "The Theory of Practice and the Practice of Theory," 501, 509.

<sup>71</sup> Jamison, "Women 'Between the Empires' and 'Between the Lines,'" 191.

<sup>72</sup> Selby, "Narratives of Conception, Gestation, and Labour," 255–256.

<sup>73</sup> Selby, 255–256.

<sup>74</sup> Selby, "Between Medicine and Religion," 43.



and *Suśrutasaṃhitā*, as he argues that the success of a woman’s pregnancy depends on her compliance with normative codes and prescriptions composed of the male author(s) of the text, which articulate a women’s “body dharma,” (lit. body duty) with no sign of their subjective and/or somatic experience present.<sup>75</sup> Because the early Āyurvedic treatises were male-authored, Cerulli argues that since “perception stands solely in the body ... this medical narrative starts where perception and experience end.”<sup>76</sup> Both of these scholars’ arguments hinge on representations of perception and sensory experience as a privileged site for understanding normative gendered subjectivities in the treatises.

The treatises comprising the textual focus of this study were composed in layers and are difficult to date. They represent the oldest surviving Āyurvedic treatises, along with the Bower Manuscript and the *Bhelasaṃhitā*. The *Carakasamhitā* was composed in the first two centuries CE and was redacted, and added to, in the fourth or fifth century CE by Dṛḍhabala.<sup>77</sup> The *Suśrutasaṃhitā* was composed in at least two strata prior to the fifth century CE, with some of the core portions on surgery dating from the centuries just prior to the Common Era.<sup>78</sup> Although the treatise contains ample information on general medical practice, in its framing narrative it is explicitly oriented towards surgery (*śalya*), the “first and best branch” of Āyurveda.<sup>79</sup> A survey of its chapters reveals an emphasis on surgical instruments and procedures, and therefore I will often refer to the *Suśrutasaṃhitā* as a surgical treatise. In this analysis, I regard the treatises as roughly contemporaneous but broadly representative of the points of view of a general tradition of medicine (*Carakasamhitā*) primarily concerned with dietetics, medicines, and non-surgical therapies, and of a surgical tradition that engages these modes but prioritizes surgery (*Suśrutasaṃhitā*).<sup>80</sup>

I use the designation “classical Āyurveda” to refer to the medicine set forth in the treatises selected as the *brhatrayī*, “great threesome,” of Ayurveda, and to contemporary practice of Ayurvedic medicine that recognizes itself as based upon these compendia: the *Carakasamhitā*, the *Suśrutasaṃhitā*, and either Vāgbhata’s *Aṣṭāṅgahṛdaya* or *Aṣṭāṅgasamgraha*.<sup>81</sup> There are a number of other treatises from this time period as well as the subsequent centuries that are regarded as part of the classical corpus but they are not addressed in detail in this study.<sup>82</sup> Each of these compendia is divided into sections called *sthānas*.

<sup>75</sup> Wujastyk, *Well-Mannered Medicine*, 19.

<sup>76</sup> Cerulli, *Somatic Lessons*, 99.

<sup>77</sup> Meulenbeld, *HIML*, 1A:114, 131.

<sup>78</sup> Wujastyk, *The Roots of Ayurveda*, 63–64. The chronological relationship of the treatises is debated.

<sup>79</sup> *SS Sū* 1.16. The term *śalya* refers to a painful and sharp object, such as an arrow or thorn, or something painful arisen in the body, like a urinary stone (*aśmarī*).

<sup>80</sup> There were likely multiple schools of surgery in this early period, as attested by citations from lost surgical works by Bhāluki and Bhoja found in later treatises and commentaries (including both Ḍalhaṇa’s and Cakrapānidatta’s commentaries on the *Suśrutasaṃhitā*). Meulenbeld, *HIML*, 1A:346, 689–91.

<sup>81</sup> According to the current Bachelor of Ayurvedic Medicine and Surgery (BAMS) syllabus set by the Central Council of Indian Medicine (CCIM n.d.), the *Aṣṭāṅgahṛdaya* is the third of the *brhatrayī*. When one of my colleagues was undergoing BAMS training in the early 2000s, instead, the *Aṣṭāṅgasamgraha* was listed on the syllabus as the third member of the *brhatrayī*.

<sup>82</sup> Notable among these are the *Kaśyapasamhitā* (c. seventh century CE), the *Bhelasaṃhitā* (earlier layers, compiled in current form circa seventh century CE), and the three treatises designated as the *laghutrayī*, “little threesome,” comprising the *Mādhavanidāna* (c. 700 CE), the *Śārṅgadharasaṃhitā* (c. 1300 CE), and the *Bhāvaprakāśa* (sixteenth century). See Wujastyk on the dating and selection of the *laghutrayī*. Wujastyk, *Well-Mannered Medicine*, 18.

## *Carakasamhitā*

The *Carakasamhitā*, an encyclopedic general medical compendium, is thought to be based on an earlier work called the *Agniveśatantra*, which was compiled, modified, and added to by Caraka sometime in the first two centuries CE. In the fourth or fifth century CE, Dṛḍhabala further redacted the treatise and added several sections,<sup>83</sup> and in the seventh or eighth century, commentator Jajjāta also made editorial contributions to the text.<sup>84</sup> The treatise itself describes the transmission of Āyurveda as moving from deities to the realm of mythic humans, from Brahmā, to Prajāpati, to the Aśvins (divine physician twins), to Indra, to sage Bharadvāja, to a large group of sages which includes Ātreya Punarvasu. Ātreya then imparted the teachings to Agniveśa, and parts of the volume are written as a series of questions posed by a student to their teacher. In its current, published, form, the treatise has 120 chapters organized into eight sections: *Sūtrasthāna* (*Sū*) the “section of *sūtras*,” i.e., the first general section, *Nidānasthāna* (*Ni*) the “section on the etiology (or pathology) of diseases,” *Vimānasthāna* (*Vi*) the “section on evaluation,”<sup>85</sup> *Śārīrasthāna* (*Śā*) the “section on the body,” *Indriyasthāna* (*In*) the “section on the sense organs [in relation to signs of impending death],” *Cikitsāsthāna* (*Ci*) the “section on treatment,” *Kalpasthāna* (*Ka*) the “section on drug preparation,” and *Siddhisthāna* (*Si*) the “section on the efficacious [treatment of diseases].” Each of these books, or sections (*sthānas*), is subdivided into chapters (*adhyaayas*) further subdivided into numbered sections marking a verse or prose section. Only the *Cikitsāsthāna* further subdivides some of its chapter into quarters.

Though the *Carakasamhitā* is difficult to date, Jan Meulenbeld concludes that the treatise was composed between 100 BCE and 200 CE, the period between the fall of the Mauryan Empire and the rise of Gupta Empire.<sup>86</sup> The text was mostly likely written in northwestern India.<sup>87</sup> Romila Thapar notes that this time of relative political instability was also characterized by stability in the growth of trading networks and commerce that extended from specific regions of India outward to destinations such as Myanmar, China, Central Asia, and Greece.<sup>88</sup> Cerulli describes the northwest region of the Indian subcontinent at this time,

When the *Carakasamhitā* was undergoing its early compilation, this area of South Asia was fast becoming a cosmopolitan center of activity and cross-cultural exchanges because of the extensive sections of the Silk Road trading routes that stretched across it.... The Sanskrit medical data of the *Carakasamhitā* have long been closely associated with the Buddhist monasteries and medical education centers of Taxila during the Kushan dynasty. Indeed, the legendary physician and teacher of Caraka, Ātreya, was said to have been a teacher there.<sup>89</sup>

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<sup>83</sup> Philip Maas provides evidence for at least one substantial revision of the *Carakasamhitā* after Dṛḍhabala and concludes that due to the existence of two different chapter orderings of the *Cikitsāsthāna*, the original order nor Dṛḍhabala’s contributions can be conclusively determined. Maas, “On What Became of the *Carakasamhitā* after Dṛḍhabala’s Revision.” For now, I am leaving questions of this kind aside in my analysis of passages from the *Carakasamhitā* *Cikitsāsthāna*.

<sup>84</sup> Zysk, “Sanskrit Commentaries on the *Carakasamhitā*,” 98.

<sup>85</sup> Wujastyk, “What is Vimāna in the Context of the *Carakasamhitā*?”

<sup>86</sup> Meulenbeld, *HIML*, 1A:14.

<sup>87</sup> Meulenbeld, *HIML*, 1A:100.

<sup>88</sup> Thapar, *Early India*, 234–239.

<sup>89</sup> Cerulli, *Somatic Lessons*, 36.

Kenneth Zysk’s work has shown that early Āyurvedic medicine arose in a Buddhist milieu. He argues that Āyurvedic medicine arose at the margins of society in the interface between physicians and Buddhist ascetics, or *śramaṇas*.<sup>90</sup> In the centuries before the Common Era, Buddhist monasticism flourished, particularly in the northeast of the Indian subcontinent, a region that Johannes Bronkhorst has called Greater Magadha.<sup>91</sup> The Buddhist Pāli Vinaya texts, containing codes of conduct for monks and nuns, reveal a well-fleshed-out system of medicine that contains the first mention of a principle that became central to Āyurvedic medicine, the *tri-doṣa*: three “faults” or humors.<sup>92</sup>

The authorship of the *Carakasamhitā* is a complex and contested topic. According to Meulenbeld’s lengthy synthesis of scholarship on the topic, it is not clear whether Caraka was a person, as suggested by Cerulli above, or a name for a school of wandering medical practitioners.<sup>93</sup> Most scholarship on the identity of Caraka hinges on either, 1) the appearance of this name in Vedic literature, 2) Chinese Buddhist translations of now lost Sanskrit texts from 500 CE that mention a physician named Caraka at the court of the Kuṣāṇa King Kaniṣka, and 3) the fact that √*car* is a verbal root meaning wander, *caraka* literally meaning “wanderer,” suggesting the lifestyle of a wandering physician or ascetic.<sup>94</sup> It is not until the time of Vāgbhaṭa, around 600 CE,<sup>95</sup> that we find the appearance of “Caraka as an individual medical authority and the author of the work rewritten by Dṛḍhabala.”<sup>96</sup> As such, I don’t refer to Caraka as an author in this dissertation, rather I always cite the treatise directly.

I translate from the Sanskrit edition of the *Carakasamhitā* most widely used by scholars, a reprint of Vaidya Jādvajī Trikamjī Ācārya’s third edition published in 1941 in Bombay. One of the limitations of the present study is that I am engaging with printed texts rather than manuscripts. However, it is precisely this feature that enables me to read with contemporary practitioners who are thinking and practicing in active engagement with the treatises. A critical edition of two of the eight sections, *Vimānasthāna* 1–7 and *Śārīrasthāna* 1–7, is currently under preparation in Austria. However, there is no critical edition widely available for consultation by scholars outside of the project at this time. Though there are 236 extant manuscripts containing the *Carakasamhitā*, only 49 of them contain the *Vimānasthāna*, which, taken along with evidence of sub-foliation of sections, leads a scholar of the critical edition, Cristina Pecchia, to note that, “the CS, at least at a certain point of its history, also circulated as a composite work, as a set of texts, each *sthāna* being a distinct unit.”<sup>97</sup> Karen Preisendanz’s study of the relationship between the epistemology and eristics of the *Carakasamhitā* and those of Nyāya<sup>98</sup> echoes Pecchia’s findings, as she identifies three distinct and well-defined epistemological models in the

<sup>90</sup> Zysk, *Asceticism and Healing in Ancient India*. For earlier scholarship, based on the premise of Brahmanical origins for Āyurveda, see Filliozat, *The Classical Doctrine of Indian Medicine* and Zimmerman, *The Jungle and the Aroma of Meats*.

<sup>91</sup> Bronkhorst, *Greater Magadha*.

<sup>92</sup> See Zysk, *Asceticism and Healing*, 30; Bronkhorst, *Greater Maghada*, 60.

<sup>93</sup> Meulenbeld, *HIML*, 1A:109.

<sup>94</sup> Meulenbeld, 1A:109. Also see Kenneth Zysk, *Asceticism and Healing in Ancient India*, 41.

<sup>95</sup> Here I follow Dominik Wujastyk’s synthesis of Meulenbeld’s lengthy discussion of Vāgbhaṭa’s date. See *The Roots of Ayurveda: Selections from Sanskrit Medical Writings* (New Delhi; New York: Penguin Books, 1998), 193.

<sup>96</sup> Meulenbeld, *HIML*, 1A:105–112.

<sup>97</sup> Pecchia, “Transmitting the Carakasamhitā,” 5.

<sup>98</sup> Nyāya is one of the six classical schools of Indian philosophy.

*Carakasamhitā*, none of which precisely maps onto Nyāya philosophy, though one of them is quite similar.<sup>99</sup> We are left here with an impression of the texts that is more variable than Dagmar Wujastyk’s study, cited earlier, indicates, perhaps partly because work with manuscripts yields different data than examining compiled printed versions of Āyurvedic texts.

Given the uncertainties regarding the authorship, date, and location of the production of this treatise as a unit, how are we to engage with it historically? Helpful here is our understanding that the *Carakasamhitā* functions as a normative text, a disciplined body of knowledge and practice that is part of a larger body of *śāstric* literature. As such, following the body of scholarship cited above, I read the *Carakasamhitā* as promulgating a set of norms related to medical training and practice, but also norms that are understood to extend to other aspects of social life, such as those regarding sexuality, diet, practices related to gender and social status, and daily routine. Sensory clues in the treatises can lead us from these norms towards a consideration of embodiment and practice.

The primary commentator on the *Carakasamhitā* that I read with in this study is Cakrapāṇidatta. Attributed to Cakrapāṇidatta are three medical works, *Cikitsāsamgraha*, *Dravyaguṇasamgraha*, and *Vyagradaridraśubhaṅkara*, and two major commentaries, *Āyurvedadīpikā* on the *Carakasamhitā* and *Bhānumatī* on the *Suśrutasamhitā*.<sup>100</sup> Cakrapāṇidatta was an eleventh-century medical writer whose father was the superintendent of a kitchen and minister for king Nayapāla of Bengal.<sup>101</sup> Meulenbeld, taking into account the dedications to Śiva at the beginnings of two of his works, has concluded that Cakrapāṇidatta was “Hindu by faith.”<sup>102</sup> In Chapter One of this dissertation we will see that this may impact his treatment of segments of *Carakasamhitā* that reflect and engage with Buddhist concepts.

### ***Suśrutasamhitā***

The *Suśrutasamhitā* is the only preserved treatise with a focus on surgery from the early first millennium. Commentarial citations attest to multiple schools of surgery during and prior to its composition, for example, Cakrapāṇidatta and Dalhaṇa cite from the earlier surgical treatises of Bhāluki and Bhoja in their discussion of the descriptions of surgical instruments in *Sūtrasthāna* chapters 7 and 8. Meulenbeld views the *Suśrutasamhitā* as a work that draws upon the surgical knowledge of a number of contemporaneous and earlier works.<sup>103</sup> Like the *Carakasamhitā*, the authorship and origins of the treatise are contested. In the treatise itself, the lineage of this surgical branch of medicine is described as originating with Svayambhū (Brahmā) who passed the knowledge of Āyurveda to Dhanvantari. In the treatise, Dhanvantari, in a human incarnation as Divodāsa, king of Kāśī (Banares/Varanasi), passes the knowledge to a group of sages who wish to know about surgery above the other branches of medicine. Suśruta, son of sage Viśvāmitra, is appointed as the interlocutor of King Divodāsa, who records the teaching.

The treatise, in its current, published form, is organized into 120 chapters over five sections (they appear in the same order as the *Carakasamhitā*, but without the *Vimānasthāna*, *Indriyasthāna*, and *Siddhisthāna*) and with a concluding *Uttaratantra*. The first five books are,

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<sup>99</sup> Karen Preisendanz, “Logic, Debate and Epistemology in Ancient Indian Medical Science,” 118.

<sup>100</sup> Meulenbeld, *HIML*, 2A:86. There are four other works listed here by Meulenbeld as “sometimes attributed” to Cakrapāṇidatta.

<sup>101</sup> Meulenbeld, *HIML*, 1A:92.

<sup>102</sup> Meulenbeld, 1A:93.

<sup>103</sup> Meulenbeld, 1A:346.

listed in order, the *Sūtrasthāna*, *Nidānasthāna*, *Śārīrasthāna*, *Cikitsāsthāna*, and *Kalpasthāna*. Meulenbeld’s survey of the literature discussing the authorship, date, and location for composition of the treatise reveals that scholars have divergent opinions on all of these issues. It seems likely that the treatise was composed and underwent a major revision. The person who revised the treatise may or may not have added the last section, the *Uttaratantra*. Some scholars think that there were two Suśrutās who composed the treatise, and that a third (or second, for scholars who only recognize one Suśruta) revision was completed by Nāgārjuna (who may or may not be the famous Buddhist scholar of the second century CE).<sup>104</sup> As Meulenbeld points out at the end of his synthesis, that much like the *Carakasamhitā*,

As is obvious from the foregoing, it is rather generally assumed that we owe the main part of the *Suśrutasaṃhitā* or an earlier version of it to a historical person named Suśruta. This assumption, however, is not based on incontrovertible evidence and may be illusory.<sup>105</sup>

P. V. Sharma suggests that the version of the *Suśrutasaṃhitā* that we have today was edited by commentator Candraṭa in the tenth century, on the basis of Jejjāṭa’s seventh or eighth century commentary on the *Carakasamhitā*.<sup>106</sup> He also argued that the second layer of the treatise was composed in South India by Suśruta II, during the Śātavāhana reign of the second century CE.<sup>107</sup> Meulenbeld notes that other scholars have argued that the *Suśrutasaṃhitā* was composed in Kāśī, somewhere in the northern Indian sub-continent (according to evidence from sections of the treatise on climate), or, specifically, in Taxila (in modern day Pakistan), since there were links between this great center of medical education and the practice of surgery.<sup>108</sup> There is not a widely accepted date range for composition of the earliest strata of the treatise, but for the purposes of this study, I understand it to be roughly contemporaneous to the *Carakasamhitā*. Meulenbeld notes that “most scholars’ regard the *Carakasamhitā* to be older.<sup>109</sup>

In his study on the complex history of the *Suśrutasaṃhitā* and the edition edited by Āchārya used in this study, Dominik Wujastyk notes the poor state of the treatise. Citing a passage from his own work *The Roots of Ayurveda*, he writes of the *Nidānasthāna*’s first chapter,

One of the most striking features to the reader of this section of Suśruta’s *Compendium* is the poor state of the text. By the time of the commentators Gayadāsa (circa 1000) and Ḍalhaṇa (circa 12th century) many variant readings were in circulation for this part of the text, and these commentators note that the manuscripts available to them had alternative readings to almost every verse. Other parts of Suśruta’s *Compendium* are also peppered with uncertain readings, but perhaps not to the same degree as the present chapter. The variability of Suśruta’s text was so obvious even a millennium ago that it spurred the creation of a work of medieval textual criticism, Candraṭa’s *Suśrutapāṭhaśuddhi*,

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<sup>104</sup> Meulenbeld, 1A:333–344.

<sup>105</sup> Meulenbeld, 1A:342.

<sup>106</sup> Meulenbeld, 1A:341.

<sup>107</sup> Meulenbeld, 1A: 336.

<sup>108</sup> Meulenbeld, 1A:336–342. For more details see Chapter Two of this dissertation.

<sup>109</sup> Meulenbeld, 1A:351.

“Correction of the readings in Suśruta,” probably written at about the turn of the eleventh century.<sup>110</sup>

His study of the recently discovered ninth-century fragmentary manuscript of the treatise (Kaiser Shamsher NAK 9/699) complicates the relationship of the figure of sage Dhanvantari to the early *Suśrutasaṃhitā*. He notes that the treatise “frequently lacks the standard phrase *yadovāca bhagavān dhanvantariḥ* (“as the sage Dhanvantari declared”) that appears at the start of all chapters in the vulgate text.” Given that the entire treatise is formulated as series of teachings offered by Dhanvantari, this “entirely re-frames the work, and throws into question the standard tradition accounts of the origin of the work.”<sup>111</sup>

The main commentary that I read with, for the *Suśrutasaṃhitā*, is Ḍalhaṇa’s twelfth-century commentary, the *Nibandhasaṃgraha*. As Meulenbeld explains, in the *Nibandhasaṃgraha*, Ḍalhaṇa describes his lineage and location. He names himself a descendant from a lineage of brāhmaṇa physicians of Sauravaṃśa (the sun lineage) who lived in Aṅkilā near Mathurā. Ḍalhaṇa was associated with “the court of Sahapāla or Sohala, the King of Bhādānaka.” Some scholars attribute this location to “the old state of Bharatpur (Rājasthān) and others with the Pāla dynasty of Bengal.”<sup>112</sup> In places, I engage with Cakrapāṇidatta’s commentary on the *Suśrutasaṃhitā*, the *Bhānumatī*, of which only the first section on the *Sūtrasthāna* has come down to us today.

### ***Bhelasamhitā***

The *Bhelasamhitā* is preserved as a fragmentary text and is identified by the author as belonging to the Ātreya school (of Caraka). Meulenbeld notes that it is “in many respects of the same type as the Carakasamhitā,” but that it also “contains elements found in the Suśrutasaṃhitā, which gives it an unusual character.”<sup>113</sup> The treatise assumed its current shape, as preserved in the Tanjore Manuscript, around the seventh century of the Common Era, but there are citations from the treatise attested earlier in the Common Era.<sup>114</sup>

### ***Treatises Attributed to Vāgbhaṭa***

The main works attributed to Vāgbhaṭa, the *Aṣṭāṅgahr̥daya* and the *Aṣṭāṅgasamgraha*, are based upon the *Carakasamhitā* and *Suśrutasaṃhitā* and date to the seventh or eighth century CE.<sup>115</sup> The *Aṣṭāṅgahr̥daya* was composed in memorizable verse form in the style of a practitioner’s manual, and of the two works, it is the one that I mention and draw upon in this study. As Dominik Wujastyk notes, the treatise was widely used in India at the time of the Chinese traveler I-Tsing in the late eighth century and it was quickly disseminated throughout Asia.<sup>116</sup> The *Aṣṭāṅgahr̥daya* is still widely used in Kerala today and was memorized as the basis for medical

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<sup>110</sup> Wujastyk, “New Manuscript Evidence for the Textual and Cultural History of Early Classical Indian Medicine,” 145.

<sup>111</sup> Wujastyk, 148.

<sup>112</sup> Meulenbeld, *HIML*, 1A:379.

<sup>113</sup> Meulenbeld, 2A:23.

<sup>114</sup> Meulenbeld, 2A:23.

<sup>115</sup> Meulenbeld finds the arguments for dating inconclusive. Meulenbeld, 1A:631–635.

<sup>116</sup> Wujastyk, *The Roots of Ayurveda*, 193–194.

training in the traditional lineage teaching of the Aṣṭavaidyā families there.<sup>117</sup> Numerous scholars have regarded Vāgbhaṭa as Buddhist due to Buddhist names and concepts in the treatises. Meulenbeld gives a detailed survey about debates regarding Vāgbhaṭa's identity, whether there was one or two Vāgbhaṭas, and whether he was Buddhist or of another religious persuasion. The results are inconclusive.<sup>118</sup>

I read the *Aṣṭāṅgahṛdaya* along with Aruṇadatta's commentary, the *Sarvāṅgasundarā*, which was drawn partly from Candranandana's *Padārthacandrikā*.<sup>119</sup> Meulenbeld concludes that Aruṇadatta most likely composed the commentary in the second half of the twelfth century (he is cited by Ḍalhaṇa).<sup>120</sup> The *maṅgala* that he uses to introduce his commentary indicates that he was Hindu and Meulenbeld points out that he characteristically "refuses to elucidate the Buddhist elements found in the *Aṣṭāṅgahṛdaya*."<sup>121</sup>

## Flow

Chapter One, "Ontologies of Touch: *Sparsā(na)* Among the Senses in the *Carakasamhitā*" examines the ontological primacy of touch in the philosophy of the *Carakasamhitā*. This chapter's examination of the ontological categories of the touch faculty and touch objects in the treatise also reveals the engagements of the authors and compilers of the *Carakasamhitā* with early *Sāṃkhya*, *Vaiśeṣika*, and Buddhist philosophies. The *Carakasamhitā* theorizes the sense faculties in detail, and singles out touch as a unique sense faculty, so this treatise is the focus of this chapter. The *Suśrutasamhitā* does not, rather it describes the practice of touch in greater detail, as will be explored in Chapter Four.

Chapter Two, "A Surgeon's Foremost Tool is his Hand: Epistemology, Diagnosis, and Sensory Mediation in the *Carakasamhitā* and *Suśrutasamhitā*" attends to questions of medical epistemology, diagnosis, and surgical tactility. Prompted by the sensory observations of a colleague conducting a water dissection of a human hand that was inspired by the *Suśrutasamhitā*, the chapter compares the role of the senses in knowing for general physicians and surgical physicians in the early treatises. Portions of this chapter are based on material published in the journal *Asian Medicine* (2020).<sup>122</sup> The first part of this chapter examines prior scholarship on physicians' status in early India as well as on the practice of surgery in early India. I then build upon the existing literature to examine representations of surgeons in the schools of general medicine represented by the *Carakasamhitā* and *Bhelasamhitā*. Next, the chapter examines the relative importance of the means of valid knowledge (*pramāṇas*) in the *Carakasamhitā* and *Suśrutasamhitā*, noting the emphasis on sensory observation (*pratyakṣa*) in the surgical school. Then, I turn to questions of sensory mediation by humans and non-humans in diagnosis and consider what this means about the physician's own senses and bodily boundaries.

Chapter Three, "Touch Between Omniscience and Objectivity: Sensory Negotiation in Contemporary Āyurvedic Diagnosis in Kerala," emerged from a 2018 publication in the *Asian Review of World Histories*.<sup>123</sup> Drawing together textual and ethnographic research, this chapter

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<sup>117</sup> See Chapter Three, footnote 35, of this dissertation.

<sup>118</sup> Meulenbeld, *HIML*, 1A:597–612.

<sup>119</sup> Meulenbeld, 1A:661.

<sup>120</sup> Meulenbeld, 1A:663.

<sup>121</sup> Meulenbeld, 1A:661.

<sup>122</sup> Brooks, "A Surgeon's Hand: Reflections on Surgical Tactility in Early Ayurveda."

<sup>123</sup> Brooks, "Epistemology and Embodiment: Knowledge and the Senses in Classical Ayurvedic Diagnosis."

examines the ways that contemporary Āyurvedic physicians I spoke with in Kerala describe their sensory diagnostic abilities in relation to techniques of the past and present. These physicians are engaged in what I call a *sensory negotiation*. Key to this negotiation of physicians is the concept of *yukti*, reasoning, which functioned as a form of “situated” reasoning (in Haraway’s terms), enabling physicians to position and legitimate their practice of medicine in relation to the two epistemological ideals of authoritative text/individual (*āpta*) and biomedical diagnostic technologies.

In Chapter Four, “Hands Touching: Tactility and Expertise in Early Āyurvedic Treatment” I turn to touch in treatment. In part one of the chapter, I examine and contrast the therapies of *abhyāṅga* (rubbing with oil) and *saṃvāhana* (rubbing) to show that specific forms of non-surgical touch can constitute treatment. In part two of this chapter, fleshing out the *Suśrutasamhitā*’s assertion that “the hand is foremost among instruments,” I examine surgical practice and expertise as represented in the *Suśrutasamhitā*, entailing a combination of informed judgment, quick action, precision, and tactile sense-ability. In parts one and three of the chapter, I demonstrate that reading with attention to touch reveals specialized and gendered forms of knowledge in the early treatises. Portions of this chapter are based on material published in the journal *Asian Medicine* (2020).

Chapter Five, “Touching A Leech Matters: An Ethnography of Contemporary Āyurvedic Leech Therapy” is an onto-epistemological engagement with feminist Science and Technology (STS) scholarship and the interspecies practice of Āyurvedic leech therapy. This chapter was the inspiration for an article published in *Medical Anthropology Quarterly* (2021).<sup>124</sup> Through worlding this chapter around the journey of a leech from pond to clinic, I explore the agentic role of leeches in Āyurvedic leech therapy. Here, I suggest that we can best understand the process of leech therapy and the clinical intra-actions it entails through its *vascularity*. The concept of vascularity enables us to understand the dynamic formation of agencies at branching points in the practice of leech therapy and contributes to STS scholarship on agency. As the only non-human actors who simultaneously participate in Āyurvedic diagnosis and treatment, leeches provide a unique vantage point for us to consider the relationship between humans and non-humans, and the nature of medical agency in Āyurvedic theory and practice.

Chapter Six, “Leech Trouble: Touch Beyond the Human in the *Suśrutasamhitā*” builds on the previous chapter’s discussion of intra-active agencies in leech therapy to highlight leech trouble on the pages of the *Suśrutasamhitā*. This chapter addresses the ways that leeches as medical actants trouble classical Āyurvedic textual categories and raise questions about their sentience. I examine ways that the figure of the leech wriggles through and defies the boundaries of Āyurvedic classificatory schemes. Then, through a translation of *Suśrutasamhitā Sūtrasthāna* chapter 13 with Ḍalhaṇa’s commentary, I examine the role and mechanisms of action of leeches in *jalaukāvacāraṇa*. The chapter concludes by bringing the leech into conversation with feminist STS literature.

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<sup>124</sup> Brooks, “The Vascularity of Ayurvedic Leech Therapy: Sensory Translations and Emergent Agencies in Interspecies Medicine.”



## CHAPTER ONE

### Ontologies of Touch: *sparsā(na)* Among the Senses in the *Carakasamhitā*

The senses constitute our experience of the world. In early Āyurvedic philosophy, the sense faculties are also recognized as fundamental constituents of existence. This chapter examines expositions on the senses in the earliest preserved general medical compendium, the *Carakasamhitā*, exploring the special position of touch, among the sense faculties, in the treatise. As noted in the introduction, this dissertation defines “touch” broadly. In this chapter, however, I will stay focused on the technical terms for touch in the early Āyurvedic treatises, usually *sparsāna* or *sparsā*, in reference to the sense faculty, and *sparsā*, in reference to the sense object. To demonstrate the unique and vital position of touch theorized in the *Carakasamhitā*, I draw together passages that discuss the nature, role, and importance of the senses and the mind in the treatise. The words *sparsā* and *sparsāna* come from the Sanskrit verbal root √*sprś*, “touch.” Across the literature used by Monier-Williams and Apte in compiling their dictionaries the root has a broad range of meanings focused on the nexus of touching, particularly with the hand, experiencing touch, and contact.<sup>1</sup> The *Carakasamhitā* often uses the term *sparsāna* to indicate the sense faculty as a shortened version of *sparsānendriya*. The term *sparsā* can mean touch as an action, the concept of contact, or the sense object of touch. In the passages I have translated below, we will also find the term *saṁsparsā* used to indicate touching.

Here, I focus on what I regard as “ontologies” of touch, because these sections of the treatise are concerned with expositing what is, above what and how one knows. This chapter’s examination of the ontological categories of the touch faculty and objects also reveals the complex tapestry of philosophies that the authors and compilers of the *Carakasamhitā* engaged with, in particular, early *Sāṁkhya*, *Vaiśeṣika*, and Buddhist philosophies. Several scholars have studied these philosophical engagements particularly with regards to the former two traditions, so disentangling them here is not my primary aim. However, I will make note of specific philosophical engagements when they emerge in the treatise or commentary.<sup>2</sup> The difficulty of discerning precisely what these engagements reveal is aptly expressed by Oliver Hellwig in his study of *Carakasamhitā Śārīrasthāna* chapter 1, a philosophical exposition cited in the second portion of this chapter. He explains that the “doctrinal heterogeneity” of the *sthāna*,

may reflect an early, nonsystematic state of Indian philosophy (text homogeneous and early, author interested in philosophy), it may have been written by a late non-specialist who compiled interesting ideas from different philosophical schools (text homogeneous

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<sup>1</sup> Monier Williams gives the primary meanings for √*sprś* as, “to touch, feel with the hand, lay the hand on (*accusative* or *locative case*), graze, stroke etc.; to handle, take hold of ... to touch so as to hurt, injure, harm; to perceive or feel by touch; to touch, come into contact.” (Monier-Williams, *A Sanskrit-English Dictionary*, 1268).

<sup>2</sup> For example: Comba, “*Carakasamhitā Śārīrasthāna* I and Vaiśeṣika Philosophy”; Dasgupta “History of Indian Philosophy,” 1:213–218, 2:372 (*Sāṁkhya*) and 2:366–72 (*Vaiśeṣika*); Gopinath, *Philosophic Foundation of Ayurveda*; Hellwig, “The Theory of the Puruṣa in *Carakasamhitā, Śārīrasthāna* 1.1” (all of these traditions in relation to *CS Śā* 1); Larson, “Āyurveda and the Hindu Philosophical Systems.” In particular, Comba’s article provides a useful survey and classification of literature addressing the *Carakasamhitā* and other philosophical schools. Comba, “*Carakasamhitā Śārīrasthāna*,” 41–42 nn14, 15, and 16. On the *Nyāyasūtra* with the *Carakasamhitā* see my discussion in Chapter Two of Preisendanz, “Logic, Debate and Epistemology.”

and late, eclecticism), or it may be a collection of diverging ideas assembled over centuries (text inhomogeneous).<sup>3</sup>

Additionally, when there are only a few similar passages across two texts he notes that “this may also indicate that the authors merely had a similar intellectual background.”<sup>4</sup> Although he is writing about a particular portion of the *Carakasamhitā*, this uncertainty pertains to the portions of the *Sūtrasthāna* I have translated as well. Of special interest towards further understanding Buddhist strands in the early first millennium doctrines of Āyurveda is a passage from the *Carakasamhitā Śārīrasthāna* that resembles a portion of the Buddhist doctrine of dependent origination.

In order to understand the touch faculty (*sparśana*, *sparśanendriya*), and its special position among the senses, we must first examine the vital importance of the sense faculties (*indriya*) in the philosophy of early Āyurvedic medicine. The first two sections below address the senses generally and in terms of disease etiology. Then, I turn to passages focusing on the unique position of the touch faculty and objects of touch in sense perception, and in bringing about well-being and disease. I have included excerpts from Cakrapāṇidatta’s commentary, the *Āyurvedadīpikā*, in places where it will assist the reader in understanding the *Carakasamhitā*. In some places, I also address the commentary as a subject of study in and of itself. Many of these commentarial passages have not been previously translated into English in their entirety, and they reveal the rich repertoire of sources from which the medieval commentator is drawing, as well as places where he presses the meaning of the *Carakasamhitā* in a particular direction. For example, in the passages cited below, note that Cakrapāṇidatta’s commentary emphasizes the importance of mind and sight. But, as we shall see, the special role of touch is evidenced in chapter 11 of the *Carakasamhitā Sūtrasthāna* (“Section of verses,” the first general section of the treatise) and in excerpts from the *Śārīrasthāna* (“Section related to the body”). That is not to say that the *Carakasamhitā*, a compendium compiled and redacted by multiple authors, and with no completed critical edition at this time, puts forth a unified position on numerous points. But it is noteworthy that we encounter passages in two different books of the treatise that express the distinct and important nature of *sparśa*, among the senses, in the treatise.

### Senses, Sentience, and Disease in the *Carakasamhitā*

The first chapter of the *Carakasamhitā Sūtrasthāna* presents the basic principles of the treatise and reveals the importance of the sense faculties in the treatise’s statement of purpose. It is here that we learn the scope of the field of Āyurveda, as well as the meaning of the initial member of the compound comprising the word *āyurveda*: “*āyus*,” “life,” “lifespan,” or “long life.” The treatise explains,

That which is known as “Āyurveda,” addresses life which is wholesome and unwholesome, [life which is] pleasing and sorrowful, that which is wholesome and unwholesome for life, life’s measurement, and life itself.<sup>5</sup>

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<sup>3</sup> Hellwig, “The Theory of the Puruṣa in *Carakasamhitā*, *Śārīrasthāna* 1.1,” 30.

<sup>4</sup> Hellwig, 30.

<sup>5</sup> *hitāhitam sukham duḥkham āyus tasya hitāhitam | mānaṃ ca tac ca yatroktam āyurvedaḥ sa ucyate ||* (CS Sū 1.41)

In the *Carakasamhitā*, the adjectival term *hita*, or its negation *ahita*, means wholesome/unwholesome in

Life (*āyus*) is the conjunction of body, sense faculties, mind (*sattva*) and self,<sup>6</sup> “bearing,” “enlivening,” “proceeding continually,” and “enduring,” it is explained by [these] synonyms.<sup>7</sup>

Here, the five sense faculties as a unit (*indriya*) comprising sight (*cakṣus*), hearing (*śrotra*), smell (*ghrāṇa*), taste (*rasana*), and touch (*sparsana*), are listed as one of the four constituents of life (*āyus*). *Āyus*, is the stated subject of Āyurveda, which translates as “knowledge of life,” or ‘knowledge for longevity’ (*āyus + veda*). Cakrapānidatta clarifies the reason for this list containing both the body and the sense faculties when the latter should be encompassed within the former. He glosses,

“Body” has the nature of deriving from the five elements, [it is] the instrument of the enjoyment of the self. “Sense faculties” [means] sight, etc. “Mind” (*sattva*) [means] mind (*manas*). “Self” [means] that which remembers knowledge. “Conjunction” is the union of these, duly governed by the unseen.<sup>8</sup> Even if, by the word “body” the sense faculties are also understood, still, they are mentioned again separately because of [their] importance.<sup>9</sup>

As I will illustrate in a moment, in *Sūtrasthāna* chapter 8, the five elements are correlated to the five sense organs, sense intellects, and sense objects. Cakrapānidatta’s attempt to explain away the treatise’s seeming redundancy in the passage above, of listing both the body and the sense faculties, rests on the *Carakasamhitā*’s assertion of the primary importance of the sense faculties in defining life and sentience.

*Carakasamhitā Sūtrasthāna* chapter 1 proceeds to describe a set of six fundamental factors similar to the Vaiśeṣika categories (*padārthas*) found in the *Vaiśeṣikasūtra* of Kaṇāda 1.4: similarity (*sāmānya*), distinction (*viśeṣa*), attribute (*guṇa*), substance (*dravya*), action (*karman*), and inseparable concomitance (*samavāya*) (*CS Sū* 1.28).<sup>10</sup> The relationships between

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the sense of suitable/unsuitable or beneficial/detrimental. The idea is not that a particular substance or practice is inherently “wholesome” or “unwholesome” but that in a specific context, and for a specific person, a practice or substance functions beneficially or detrimentally.

<sup>6</sup> In this chapter, I translate *ātman* as “self” in the sense of “transcendent self.” See Cerulli for a discussion of the different meanings of *ātman* in relation to well-being in Āyurvedic literature. Cerulli, “Body, Self, and Embodiment in the Sanskrit Classics of Āyurveda,” 62.

<sup>7</sup> *śarīrendriyasattvātmasamyogo dhāri jīvitam | nityagaś cānubandhaś ca paryāyair āyur ucyate || (CS Sū 1.42)*

<sup>8</sup> Here, the term *adrṣṭa* “unseen” refers to *karma*, in the sense of actions taken in another lifetime that have unseen consequences in this lifetime.

<sup>9</sup> *śarīraṃ pañcamahābhūtavikārātmakam ātmano bhogāyatanam, indriyāṇi cakṣurādīni, sattvaṃ manah, ātmā jñānapratisandhātā, eṣāṃ samyagadrṣṭayantrito yogah samyogah | yady api śarīragrahaṇenaiva indriyāṇy api labhyante, tathāpi prādhanyāt tāni punaḥ pṛthag uktāni | Carakasamhitā, 8.*

<sup>10</sup> Wilhelm Halbfass notes that this list of six fundamental categories may have been an addition to the *Vaiśeṣikasūtra* (1.4), as it is only presented in a single verse and is not attested in some versions of this text. Halbfass, *On Being and What There Is*, 75. Also, see Chakrabarty, *Vaiśeṣika-Sūtra of Kaṇāda*, 40. For a discussion of each of the categories as it functions in the *Vaiśeṣikasūtra* and Āyurveda, refer to Gopinath, *Philosophic Foundation of Ayurveda*, 55–139. The *Vaiśeṣikasūtra*, like the *Carakasamhitā*, was likely composed or compiled in the Kaniṣkan era (approx. between 100 BCE and 100 CE), although Karl Potter notes, “The Vaiśeṣika system has its beginnings at some indeterminate time BC.” Potter,

these factors, which Caraka designates as “cause” or “means” (*kāraṇa*), are essential to understanding the cause and symptoms of disease, as well as the mechanism of action of Āyurvedic treatments. Substance (*dravya*) is the substrate in which both attribute (*guṇa*) and action (*karman*) reside. Attribute (*guṇa*) and substance (*dravya*) exist in a relationship of inseparable concomitance (*samavāya*), as matter and attribute invariably co-exist (*CS Sū* 1.44–53). The discussion of these factors, found in the *Sūtrasthāna*, demonstrates the centrality of the senses to sentience (*cetanā*). I use the translation of “sentience” because sentience conveys the presence of sense capacities, which is essential to the definition of “life,” above. I begin my translation after the treatise’s discussion of the principles of similarity and distinction.<sup>11</sup>

The triad of mind,<sup>12</sup> self, and body is like a tripod. The world stands because of [their] union. Everything abides in them.<sup>13</sup>

It is the human being (*puruṣa*), it is sentient, and it is the propounded topic of this teaching. Indeed, the teaching is made manifest for this purpose.<sup>14</sup>

In his lengthy gloss of these verses, Cakrapāṇidatta clarifies why the sense faculties are not explicitly included in the image of the tripod:

But here, separate mention is not made of each of the sense organs, because [the sense organs are] understood through mentioning the body alone.... Here mind is mentioned first, because of the actions of self and body being under its control. As is stated, “The mind is non-sentient and possessing action, and the other (i.e., self) is the agent of sentience. They explain, “there is action of the self that is united with the mind” (*Śā* 1.75). Life is previously described [in verse 1.42] “with body, etc.,” but “with mind, self, etc.,” is stated [here] in reference to the human, among beings, as the topic of the treatise, so there is not a repetition. It should be explained that by using [the word] “self” there is the meaning of intellect (*buddhi*), ego (*ahaṅkara*), etc., by using “body” there is the meaning of sense organs and of sense objects belonging to the body.<sup>15</sup>

The *Carakasamhitā* verses continue, expressing the connection between matter, the sense faculties, and consciousness.

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*Encyclopedia of Indian Philosophies: Indian Metaphysics and Epistemology*, 2:211.

<sup>11</sup> Although I have translated Cakrapāṇidatta’s entire commentary for this section, as well as for the other sections of the *Sūtrasthāna* cited in this chapter, his expositions are extremely long, and I only cite clarifying notes and select passages.

<sup>12</sup> Cakrapāṇidatta glosses *sattvam* as *manas*. *Carakasamhitā*, 11.

<sup>13</sup> *sattvam ātmā śarīraṃ ca trayam etat tridaṇḍavat | lokas tiṣṭhati saṃyogāt tatra sarvaṃ pratiṣṭhitam || CS Sū 1.46*

<sup>14</sup> *sa pumāṃś cetanaṃ tac ca tac cādhikaraṇaṃ smṛtam | vedasyāśya tadarthaṃ hi vedo 'yaṃ samprakāśitaḥ || CS Sū 1.47*

<sup>15</sup> .... | *atra tu pṛthagindriyagrahaṇam na kṛtam, śarīragrahaṇenaiva grhītatvāt | .... | atra sattvam ādau kṛtam, tad adhīnatvād ātmaśarīrakriyāvāḥ; yad uktam—“acetanaṃ kriyāvac ca manaś cetayitā paraḥ | yuktasya manasā tasya nirdiśanti ātmanaḥ kriyām” (ś a 1) iti | pūrvaṃ śarīretyādinā 'yuruktam, sattvamātmetyādinā tu tantrādhikaraṇabhūtapuruṣa ucyata iti na punaruktyam | atra cātmagrahaṇena buddhyahaṅkāradīnāṃ grahaṇam, śarīragrahaṇenendriyāṇām arthānām ca śarīrasambaddhānām grahaṇam vyākhyeyam || Carakasamhitā, 11.*

The list of substances is space, etc. (indicating the five elements: space, air, fire, water and earth), self, mind, time, and place. Substance having the sense faculties is sentient; substance without the sense faculties is non-sentient.<sup>16</sup>

As such, the sentience of matter is defined by the presence of the sense faculties. This sentience, entailing possession of one or more sense faculties, extends beyond the human (I will return to this point in relation to the question of leech sentience in the final chapters of this dissertation).

In his discussion of this passage, Cakrapānidatta further emphasizes the central role of the senses in generating consciousness and provides evidence for the sentience of plants through observing their reaction to various stimuli. His gloss alerts us to the fact that the sense faculties require their abode of the body, as well as the mind, to function. He explains,

If only the self were sentient, and the body, and the also the mind were not—as would follow from the statement, “Since the self possesses sentience, the agent is, thereby, clarified” (*Śā* 1.76)—even so, just like the heat in relation to water, with combined inseparable concomitance, the body, etc. (body/senses, self, and mind), too, is sentient. And only that self is sentient, which, when conjoined with the sense faculties, is enjoined with knowledge. The self alone is not sentient. As it is stated, “The self is knowing, but its knowledge is created through union with causes (sense objects)” (*Śā* 1.54). Here, it is to be understood that because of trees, etcetera’s possession of sense organs, there is also sentience. For instance, as the sight faculty of a sunflower is inferred from [its] movement which move according to the sun.... (He provides examples of a plant responding to each sense object.) ... And the touch faculty is inferred of an *aśoka* tree, gladdened when struck by a young woman’s foot, blossoming.<sup>17</sup>

Thus, even the self (*ātman*), comprising the materiality of intellect and ego, requires conjunction with the body and the mind—both required for sensory perception—to be sentient. Further, in Cakrapānidatta’s view, plants evidence sentience in their behavior, which seems to respond to sensory stimuli. Indeed, one can infer the presence of the touch faculty in the *aśoka* tree, since it appears to blossom at the touch of a maiden’s foot. The tree is understood as sentient precisely because of an apparent sensory response to this intimate contact.<sup>18</sup>

The sense organs are the interface between beings and the world. As such, misuse of the sense organs is one of the three root causes of disease. *Carakasamhitā Sūtrasthāna* 1.54 describes the general cause for diseases of the body and mind as follows:

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<sup>16</sup> *khādīnyātmā manaḥ kālo diśaśca dravyasaṃgrahaḥ |*

*sendriyaṃ cetanaṃ dravyaṃ nirindriyaṃ acetanam || (CS Sū 1.48) |*

<sup>17</sup> *yady api cātmaiva cetano na śarīraṃ, nāpi manaḥ, yaduktam—“cetanāvān yataś cātmā tataḥ kartā nirucyate” (ś a 1), tathāpi salilauṣṇyavat saṃyuktasamavāyena śarīrādy api cetanam | idam eva cātmanaś cetanatvaṃ yat indriyayoge sati jñānaśālitvaṃ, na kevalasyātmanaś cetanatvaṃ; yaduktam—“ātmā jñāḥ, karaṇair yogā jñānaṃ tv asya pravartate” (ś a 1) iti | atra sendriyatvena vṛkṣādīnām api cetanatvaṃ boddhavyaṃ; tathā hi—sūryabhaktāyā yathā yathā sūryā bhramati tathā tathā bhramaṇād dṛg anumīyate ... aśokasya ca kāmīnīpādatalāhatisukhinaḥ stabakītasya sparśanam anumānaṃ ... | Carakasamhitā, 12.*

<sup>18</sup> For a discussion of plant sentience in early Buddhism see Schmithausen, *Plants in Early Buddhism*. Also, refer to Chapter Six of this dissertation.

Improper use, non-use, and excessive use of season, intellect, and sense objects, is the threefold enumeration of causes of diseases having a twofold abode [body and mind].<sup>19</sup>

Cakrapānidatta's gloss of this verse helps us understand the key role of the senses in causing disease as it relates to the system of factors (substance, attribute, action, etc.) outlined earlier in the chapter.

The “sense objects” are sound, touch, appearance, taste, and smell, and going along with them, substance, attribute, and action are employed through the passages of the sense organs. “Use” is construed across those, “season, etc.” Its threefold modifiers are “improper,” “non,” and “excessive.” Therefore, the [meaning is] the improper use of season, etc. “Non-use” is in the sense of no use, and “excessive use” is in the sense of excessive use. “Having a twofold abode” [means of diseases] having the abodes of mind and body. And this should be understood as the state of the mind and body being abodes [for disease], both separately and combined. Threefold [means] consisting of non-use, excessive use, and improper use. “Collection of causes” [means] aggregate of causes. And these—the non-use, excessive use, and improper use of season, etc.—will be explained clearly in the text, in the section [entitled] “The three aspirations (things to be desired in life),” [in the verse] “there of the extremely splendid” (*Sū* 11), etc.<sup>20</sup> So, here (in this chapter), they are not explained. And, here, the word “season” is written at the beginning because season is unavoidable. After that, “intellect” is mentioned, because the error of intellect, itself, is the cause of the excessive use, etc., of the sense objects. Indeed, it will be explained: “Thus, because of error of intellect, the five [senses] engage unwholesome objects” (*Sū* 28.39).<sup>21</sup> And thus, even if the unwholesome use of sense-objects begins in errors of intellect, still, because of the state of imminent causality (of the unwholesome use of sense objects), this too is indicated in the treatise separately by “the unwholesome use of sense objects.” And errors of intellect are in reference to errors of the action of the body, speech, and mind, distinct from the unwholesome use of sense objects.<sup>22</sup>

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<sup>19</sup> *kālabuddhīndriyārthānām yogo mithyā na cāti ca | dvayāśrayānām vyādhīnām trividho hetusaṃgrahaḥ || (CS Sū 1.54)*

<sup>20</sup> *CS Sū 11.37.*

<sup>21</sup> *CS Sū 11.31.*

<sup>22</sup> ... *indriyārthāḥ śabdaśparśarūparāsagandhās tatsahacaritāni dravyaguṇakarmāṇīndriyadvāropayujyamānāni ca; teṣāṃ kālādīnām yogaḥ saṃbandhaḥ | tasya viśeṣaṇatrayaṃ—mithyā na cāti ceti | tena kālādīnām mithyāyogaḥ, na ca yogaḥ ayoga ity arthaḥ, ati ca yogaḥ 'tiyoga ity arthaḥ | dvayāśrayānām iti manaḥśarīrāśrayānām | etac ca manaḥśarīrādiṣṭhānatvaṃ pṛthak militaṃ ca boddhavyam | trividha ity ayogātiyogamithyāyogarūpaḥ | hetusaṃgrahaḥ hetusaṃkṣepaḥ | ete ca kālādīnām atiyogāyogamithyāyogās tisraīṣaṇīye “tatrātiprabhāvātām” (sū a 11) ityādīnā granthena suvyaktaṃ vācyā iti neha vivriyante | kālagrahaṇaṃ tv ihādau kṛtaṃ, kālasya duṣparikāratvāt | tad anu buddhir ucyate, buddhyaparādhasyaivendriyārthātiyogādihetutvāt; vaksyati hi—“prajñāparādhād hi ahitān arthān pañca niṣevate” (sū a. 28) iti; evaṃ ca yady apy asātmīyendriyārthasaṃyogaḥ prajñāparādhe praviśati tathā 'pi pratyāsannakāraṇatvād asātmīyendriyārthasaṃyogenaivāyaṃ pṛthak tantre sūcyate, prajñāparādhas tv asātmīyendriyārthasaṃyogavyatiriktakāyavān manaḥkriyāparādhe vartate | Carakasamhitā, 14.*

Thus, the unwholesome use of sense objects stands on its own alongside errors of intellect as a main cause for disease in the treatise. In Cakrapāṇidatta’s reading, this is because of the closeness, what he calls the “proximate causality,” of the use of the sense faculties, in contrast to the slightly more removed causality of the mind. This emphasis on the primacy of the senses in etiology is reiterated and clarified in one of the main expositions on the senses in the treatise, translated in the next section.

### “Exposition on the Sense Faculties,” *Carakasamhitā* Chapter 8

In order to understand the passages later in the treatise that explain the mediating nature of touch among the senses, as well as the relation between touch and mind, we must first examine the way that *sparśa* functions along with the other senses. Chapter 8 of the *Carakasamhitā Sūtrasthāna* explains the sense faculties. The first portion of the chapter, which I translate below, *Sūtrasthāna* 8.1–16, discusses the relationship of mind to the sense faculties, and the constitution and function of the sense faculties. The second portion of the chapter, not translated here, explains proper comportment and behavior in terms of proper use of the senses.

Since this is a lengthy passage, the reader who is primarily concerned with the broad brushstrokes may choose to focus on the following paragraphs containing my summary of the main points, and the translated text from the *Carakasamhitā*, while skipping the translations of Cakrapāṇidatta’s, highly technical commentary. In this section we learn about the five sets of five: the five sense faculties, sense perceptions, sense organs, sense objects and seats of the senses. We also learn of the importance of mind in leading the process of sensing. The order of the senses in relation to the corresponding categories in the five sets of five is not consistent. (See Figure 1, where the categories are listed in the order presented in the treatise and with a number that corresponds to each sense faculty. I have assigned these numbers based on the order that the sense faculties are first presented in the chapter, and only for the purpose of showing that the order is not consistent. The numbers themselves do not represent a sensory hierarchy.) I present excerpts from Cakrapāṇidatta’s commentary in places where it helps to explain or contextualize the discussion in terms of the sensory ontologies of the treatise, but also where it reveals tensions that the commentator faces in aligning his medieval perspective with that of the classical treatise. For example, in explaining the difference in order with regards to the list of the sense faculties and the list of the materials of the senses (the five elements) in *Carakasamhitā Sūtrasthāna* 8.9, Cakrapāṇidatta attributes the fact that sight comes first in the former list (but third in the latter list), to the greater importance of sight (see Figure 1). To prove this, he draws upon a citation from “*śālakya*,” the branch of medicine addressing the use of sharp instruments in the eye (along with the ears, nose, and mouth).<sup>23</sup> This argument does not seem to align with passages that we will examine later in the chapter, expressing the primacy of touch in the process of sensing in the treatise.

As McHugh points out, there are several list orders commonly used in describing the senses across early Indic Brahmanic, Buddhist, and Jain philosophical schools, and the different list orders seem to reflect the importance of specific theoretical concerns.<sup>24</sup> The list order of the sense faculties in this section of the *Carakasamhitā* (see column 1 of Figure 1) aligns with the Buddhist *Abhidharmakośa* and also with the *Sāṃkhyakārikā*, both texts later than the

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<sup>23</sup> The citation he provides as evidence does not seem to come from my primary version of the *Carakasamhitā* and did not match any texts in my GREP search.

<sup>24</sup> McHugh, *Sandalwood and Carrion*, 46.

*Carakasamhitā* by a few centuries.<sup>25</sup> In McHugh’s analysis, the Buddhist sense orderings appear to be “phenomenological,” that is, concerned with the “theory” and “nature of perception.”<sup>26</sup> This is explained by Vasubandhu in the *Abhidharmakośa* in two ways. In the first explanation, Vasubandhu explains that touch comes last in the list because “its objects are both the primary and secondary matter,” and the other senses are listed on the basis of “greater distance or speed of action.”<sup>27</sup> Here, Vasubandhu’s assessment of touch seems to collapse the distance between subject and object, like some of the contemporary theories of touch glossed in the introduction. In the second explanation, the order is given according to the position of the sense faculties in the body, and since the majority of skin is located physically below the other sense organs, touch comes last.<sup>28</sup> In his analysis of the ordering of the senses in the *Sāṃkhyakārikā*, McHugh concludes that the order “appears to be quite possibly based on the spatio-temporal relation between subject and object.”<sup>29</sup> In any case, the ordering of the senses, and the mismatch between several of the lists presented in this chapter, poses a problem for Cakrapāṇidatta and reflects the multiple philosophical engagements reflected across the treatise.

1 five sense faculties <i>pañcendriya</i> CS Sū 8.8a	2 materials of the five senses <i>pañcendriyadravya</i> CS Sū 8.9b	3 seats of the five senses <i>pañcendriy- ādhiṣṭhāna</i> CS Sū 8.10a	4 five sense objects <i>pañcendriy- ārtha</i> CS Sū 8.11b	5 five sense perceptions <i>pañcendriya-buddhi</i> CS Sū 8.12
1 sight <i>caḡṣus</i>	2 space <i>kha</i>	1 eyes <i>akṣiṇī</i>	2 sound <i>śabda</i>	1 sight-perception <i>caḡṣurbuddhi</i>
2 hearing <i>śrotra</i>	5 wind <i>vāyu</i>	2 ears <i>karnau</i>	5 touch <i>sparśa</i>	2 sound-perception <i>śrotrabuddhi</i>
3 smell <i>ghrāṇa</i>	1 fire <i> jyoti</i>	3 nose <i>nāsika</i>	1 form <i>rūpa</i>	3 smell-perception <i>ghrāṇabuddhi</i>
4 taste <i>rasana</i>	4 water <i>āpas</i>	4 tongue <i>jihva</i>	4 savor <i>rasa</i>	4 taste-perception <i>rasanabuddhi</i>
5 touch <i>sparśana</i>	3 earth <i>bhū</i>	5 skin <i>tvak</i>	3 scent <i>gandha</i>	5 touch-perception <i>sparśanabuddhi</i>

Figure 1: Five sets of five, “*pañcapañcaka*”<sup>30</sup>

Accordingly, in Cakrapāṇidatta’s commentary on this section we also find an acknowledgment of the intertextuality, or perhaps, the inter-philosophical nature, of Āyurvedic philosophies. He notes in his commentary to *Sūtrasthāna* 8.3 (see below), “Since this treatise is connected with all schools of thought, with the different schools of thought such as Vaiśeṣika and Sāṃkhya being in non-opposition to Āyurveda, there is not a contradictory meaning presented.”<sup>31</sup> In the commentary on this section, Cakrapāṇidatta supports his argument with unattributed examples from the *Vaiśeṣikasūtra* and from Gautama’s *Nyāyasūtra*. For example, he

<sup>25</sup> McHugh, 46–49.

<sup>26</sup> McHugh, 47.

<sup>27</sup> McHugh, 47.

<sup>28</sup> McHugh, 47.

<sup>29</sup> McHugh, 47.

<sup>30</sup> This attribution, found in *Carakasamhitā* Sū 8.12, is how the physicians whom I read with referred to this chapter.

<sup>31</sup> *yataḥ sarvapāriśadam idaṃ śāstram, tenāyurvedāvīruddhavaiśeṣikasāṃkhyādidarśanabhedena viruddhārtho ’bhidhīyamāno na pūrvāparavirodham āvahaṭīty arthaḥ | Carakasamhitā, 55.*



engages the Vaiśeṣika ideas of the mind being singular (*ekam*) and minute/atomic (*aṇu*) (*VS* 3.2.3 and 7.1.23) to shore up an argument against simultaneous perception through more than one sense faculty in a given instant. However, he also goes to pains to delimit the possible intertextualities of the treatise. The *Carakasamhitā* is undoubtedly influenced by, and interacting with, Buddhist ideas circulating in its milieu. However, Cakrapāṇidatta, who, as noted in the introduction, came from a courtly Śaiva family, prefers to emphasize when this is not the case.<sup>32</sup> Take for example, the discussion below, in *Sūtrasthāna* 8.12, of the five sense perceptions as momentary (*kṣaṇika*), which Cakrapāṇidatta explicitly glosses as *not* identical to Buddhist doctrine: “‘Momentary’ means they are perishable with extreme speed, but not that they stay for one instant as in Buddhist doctrine.”<sup>33</sup> As Alexander von Rospatt notes, this notion of phenomenon as momentary, fundamentally challenged Brahmanical notions of “permanent entities,” and thus was a major point of argumentation for centuries.<sup>34</sup>

### ***Carakasamhitā Sūtrasthāna 8.1–16***

“Now, we will expound the chapter ‘Exposition on the sense faculties,’” thus said honorable Ātreya.<sup>35</sup>

[Cakrapāṇidatta]: On the topic of health the utmost effort should be undertaken in terms of food, conduct, and activity, as stated.<sup>36</sup> In that context, some foods and activities are explained by the three prior sections. Therefore, with the purpose of describing the conduct that remains to be described, and with the corresponding aim of showing the activities having the nature of preventing the excessive use, non-use, and improper use of the sense faculties and the mind, he gives the “Exposition on the sense faculties.”<sup>37</sup> ...

Here indeed, the five sense faculties (*pañcendriya*), the substances of the five sense faculties (*pañcendriyadravya*, i.e., the five elements, *mahābhūta*), the seats of the five senses (*pañcendriyādhiṣṭha*), sense objects (*pañcendriyārtha*), [and] the sense-intellects (*pañcendriyabuddhi*), are explained in “the section on the senses.”<sup>38</sup>

[Cakrapāṇidatta]: “Here” [means] the five senses [as explained], here, in this section. Therefore, there is not a contradiction, in another section, with [that section] accepting

<sup>32</sup> See Meulenbeld, *HIML*, 2A:92–93.

<sup>33</sup> *kṣaṇikā iti āśutaravināśinīyaḥ, na tu bauddhasiddhāntavad ekakṣaṇāvastāyīnyāḥ* | *Carakasamhitā*, 57.

<sup>34</sup> Von Rospatt also points out that in the earliest phase of this doctrine Buddhists only agreed on the momentariness of mental events and not of matter. Then, some Sarvāstivāda schools extended this idea to matter. While was rejected by other Buddhist schools initially, it eventually became the majority opinion. See von Rospatt, *The Buddhist Doctrine of Momentariness*, 2. See also footnote 64 below.

<sup>35</sup> *athāta indriyopakramaṇīyam adhyāyaṃ vyākhyāsyāmaḥ* || (CS Sū 8.1)

*iti ha smāha bhagavānātreyaḥ* || (CS Sū 8.2)

<sup>36</sup> The topics of food, conduct, and activity are addressed in *Sūtrasthāna* chapters 5, 6, and 7, respectively.

<sup>37</sup> *svasthādhikāre āhārācārāceṣṭāsu, paraṃ prayatnam ātiṣṭhet ity uktam, tatrāhārāceṣṭāḥ kāścit pūrvādhyāyayatraṇa pratipāditāḥ, tenāvasistasyācārasyābhidhānārtham tathendriyamanaśam atiyogāyogamithyāyogaparihārarūpaceṣṭopadarśanārtham cendriyopakramaṇīyamāha* | ... *Carakasamhitā*, 55.

<sup>38</sup> *iha khalu pañcendriyāṇi pañcendriyadravyāṇi pañcendriyādhiṣṭhānāni pañcendriyārthāḥ pañcendriyabuddhayo bhavanti ity uktam indriyādhikāre* || (CS Sū 8.3)

another school of thought, naming the eleven sense faculties mentioned subsequently, in like manner.<sup>39</sup> Since this treatise is connected with all schools of thought, with the different schools of thought, such as Vaiśeṣika and Sāṃkhya, etc., being in non-opposition to Āyurveda, the sense is that the divergent view being presented does not entail a contradiction between the former and latter. But, even if mind is also considered a sense faculty according to Vaiśeṣika it is also [considered so] by the writer of [this] treatise, in the section “Introduction to the sweet flavor,” describing [the mind], [as the] “soothing the sixth sense” (Sū 1. 26).<sup>40</sup> Because of this explanation, it is certainly accepted. Nevertheless, here in this chapter [mind] is not mentioned as a sense faculty because of having additional properties than sight, etc. (the five sense faculties), as will be explained. The author himself will explain the sense faculties etc., beginning with, “Therein sight, etc.”<sup>41</sup> So, the extent that it is stated in the “section on senses,” “by previous teachers,” is to be supplied. Also, the conclusion is that in another treatise, in the section on sense faculties, it is explained in this way.<sup>42</sup>

Again, the mind is beyond the sense faculties, it is designated as “*sattva*”; some call it “*cetas*.” Its activity is dependent upon attainment of the self and its objects; it is the cause for activity of the sense faculties.<sup>43</sup>

[Cakrapāṇidatta]: Beginning with “beyond the sense faculties,” he explains the mind through distinct characteristics in comparison to sight etc. “Beyond the senses” [means] surpassing the sense faculties. Of sight, etc., whose sense faculty-ness has a cause for external knowledge (the mind), the sense is, [the mind is] “surpassing” that. Although mind is also a sense faculty because of its causing the knowing of happiness, etc., even so, because of its essential quality of superintending sight, etc., among the sense faculties, [it] is said to be “beyond the senses.” Alternately, “beyond the sense faculties” means [the mind] is more subtle than the sense faculties, such as sight, etc., which are also beyond the senses, because (mind) is difficult to apprehend.... “That” [means] mind, “object” [means] the mind’s object, and it is happiness, etc., and thoughts and speculations, etc. “Self” [means] one that gets associated with consciousness. “Attainment of its objects” [means] the attainment of these two [the self and the object]. “Its activity is dependent upon attainment of the self and its objects,” i.e., [the mind] whose “activity,” i.e., operation, is dependent upon this. In that context, the “attainment

<sup>39</sup> Here, Cakrapāṇidatta is referring to the discussion in *Carakasamhitā Śārīrasthāna* chapter 1 which we will examine in the next section of this chapter.

<sup>40</sup> *CS Sū* 26.42.

<sup>41</sup> *CS Sū* 8.8 (translated below).

<sup>42</sup> *iheti iha prakaraṇe pañcendriyāṇi, tena prakaraṇāntare darśanāntaraparigraheṇa vakṣyamāṇaikādaśendriyābhidhānena samaṃ na virodham, yataḥ sarvapāriṣadam idaṃ śāstraṃ, tenāyurvedāviroddhavaiśeṣikasāṃkhyādidarśanabhedena viruddhārtho 'bhidhīyamāno na pūrvāparavirodham āvahaṭīy arthaḥ | manas tu yady api viśeṣikamate 'pīndriyaṃ, śāstrakāreṇāpi madhurasapraṣṭāve “śaḍindriyaprasādanāḥ” (sū a. 26) ity abhidhānād anumataṃ eva, tathā 'pīha prakaraṇe cakṣurādibhyo vakṣyamāṇādhikadharmayogitayā nendriyatvena paṭhitam | indriyādīni svayam eva vyākariṣyati—tatra cakṣurīyādīnā | ity etāvad evoktam indriyādhikāre, 'pūrvācāryaiḥ' iti śeṣaḥ; etenānyaśāstre 'pīndriyādhikāre etāvad evoktam iti phalati || Carakasamhitā, 55.*

<sup>43</sup> *atīndriyaṃ punar manaḥ sattvasamjñakam; cetaḥ ity āhur eke, tadarthātmamasampadāyattaceṣṭam ceṣṭāpratyaabhūtam indriyānām || CS Sū* 8.4

of the object” [means] close contact with happiness etc., and it is proximity to thoughts, etc. “The attainment of self” is the state of effortfulness with respect to the grasping of objects. And the activity of the mind is, similarly, the apprehension of happiness, etc. and the thinking of thoughts, etc., and likewise, it impels the sense faculties, sight, etc. And which activity of the sense faculties, sight, etc., is characterized by knowledge based upon the form of their own [respective] objects, etc., in respect to that activity, the mind has the nature of being the cause, this is to be construed. Therefore, it is stated thus, when happiness, etc., worries, etc., become objects, and the self is exerting effort, then the mind acts in reference to its own objects. The mind superintends (*adhitiṣṭhati*) the senses, and the senses act knowing their own objects only when superintended by mind.<sup>44</sup>

The mind in one person is multiple because of wandering from objects of the mind, to the objects of the sense faculties, to imagining, and because of union with the mental attributes (*guṇas*) of passion (*rajas*), dullness (*tamas*), and purity (*sattva*). But there is not multiplicity. Indeed, there is not one single time [that the mind] engages in many [objects]. Therefore, the activity of all of the senses does not happen at one time.<sup>45</sup>

[Cakrapāṇidatta]: ...(*In reference to the non-singularity of mind*) Thus also, when wandering among objects of the senses, when it perceives form, then it is the perceiver of form, when it perceives smell, then it is the perceiver of smell, etc., this is to be stated. Thus, this should also be explained [of the mind] when [it is] wandering in thought. For example, imagining of entities which are present, “this is beneficial to me” or “this is not beneficial to me,” or [thinking the] attribution “because of positive quality or “because of fault.” And, upon this kind of wandering, sometimes [the mind] is the attributor of good quality, sometimes [the mind] is attributor of fault, this is to be explained as division of mind. Thus, in a single person when one and the same mind is endowed with much passion, then it possesses anger, etc.; when it is endowed with much darkness then it possesses ignorance and fear, etc.; when it is endowed with purity then it possesses truth and integrity, etc. And, indeed, because of this, it is as if the mind is multiple. [However] this very multiplicity explained [above] does not exist in ultimate reality. He says “and not,” etc. And there is not the state of multiplicity of mind, this is the meaning. And by

<sup>44</sup> *caḥsurādibhyo viśiṣṭena dharmeṇa mano darśayati—atīndriyam ityādi | atikrāntam indriyam atīndriyaṃ; caḥsurādīnāṃ yadīndriyatvaṃ bāhyañānakāraṇatvaṃ, tad atikrāntam ity arthaḥ; yady api mano 'pi sukhādijñānaṃ prati kāraṇatvenendriyaṃ, tathā 'pīndriyacakṣurādy adhiṣṭhāyakatvaviśeṣād atīndriyam ity uktam; yadi vā 'tīndriyam iti caḥsurādibhyo 'py atīndryebhyaḥ sūkṣmataram, duravabodhāt | ... | tad iti manaḥ artho manoarthaḥ, sa ca sukhādīś cīntyavicāryādīś ca, ātmā cetanapratisandhāt, anayoḥ sampat tadarthātmasampat, etad āyattā ceṣṭā vyāpāro yasya tat tathā; tatrārthasampat sukhādīnāṃ sannikarṣaś cīntyādīnāṃ abhimukhyaṃ ca, ātmasampad arthagrahane prayatnaśālītvam, manaśceṣṭā ca sukhādijñānaṃ tathā cīntyacintanādi tathā caḥsurādīndriyapreraṇam ca | indriyānām, caḥsurādīnām yā ceṣṭā svaviśayarūpādijñānalakṣaṇā, tatra pratyayabhūtaṃ kāraṇabhūtaṃ mana iti yojyam | etenaitad uktam bhavati—yadā sukhādayaś cīntyādayo 'pi viśayā bhavanty ātmā ca prayatnavān bhavati tadā manaḥ svaviśayē pravartate indriyāṇi cādhiṣṭhātī, indriyāṇi ca manodhiṣṭhātīny eva svaviśayajñāne pravartate || Carakasamhitā, 55.*

<sup>45</sup> *svārthendriyārthasankalpavyabhicaraṇāc cānekam ekasmin puruṣe sattvaṃ, rajastamaḥsattvagunayogāc ca; na cānekatvaṃ, na hy ekam hy ekakālam anekeṣu pravartate tasmān naikakālā sarvendriyapravṛttiḥ || CS Sū 8.5*

using the word “and,” he adds that there is no vastness of mind. As is stated, “Now, minuteness and singularity are said to be the two attributes of mind” (*Śā* 1).<sup>46</sup>

In order to explain how there is no multiplicity, he explains “indeed not,” etc. [The mind that is] multiple engages with many objects at one time. The mind which is multiple is visible in the bodies of Devadatta, Vanadate, and Viṣṇumitra.<sup>47</sup> That [mind], simultaneously, at one time, engages with the multiple knowledges of form, sound, and smell, seen thus. Consequently, if there were many minds in one person, then these would also engage with the knowledges of form, etc. simultaneously, in person. But these [minds] do not engage [simultaneously]. Therefore, in one person there is only one mind, this is the meaning.

“Because of eating oblong rice crackers, five-knowledges (form, etc.) arise,”<sup>48</sup> but this kind of knowledge is a misapprehension, like the knowledge of the individual distinctions between a hundred lotus leaves simultaneously. In reality, in reference to the arisal of simultaneous knowledges, indeed, at all times when there are proximate objects, there would be simultaneous knowledges. Hence, on account of this also, mind does not have great scope. Indeed, if the mind had great scope, then knowledge would arise simultaneously from the abode of the five sense faculties. And therefore, “the mind is small and singular.” And therefore, in one person, there is one mind, having a small measure. Because of this, the action of all of the sense faculties does not take place at one time. There is not the simultaneous activity of the sense faculties in reference to the obtainment of their respective objects. The sense faculties operate led by mind, therefore when mind governs sight, etc., then there is not smell, etc., thus, when it governs smell there is not sight, etc.<sup>49</sup>

<sup>46</sup> *CS Śā* 1.19. These are also the qualities of mind as explained in the *Vaiśeṣikasūtra* 3.2.3 and 7.1.23. Chakrabarty, *Vaiśeṣika-Sūtra*, 65, 91.

<sup>47</sup> This example appears to be drawn from *Vaiśeṣikasūtra* 3.146–153. Chakrabarty, *Vaiśeṣika-Sūtra*, 66–68.

<sup>48</sup> This citation comes from Vācaspatimiśra's *Nyāyavārttikatātparyatīkā* century sub-commentary on Uddyotakara's commentary on Gautama's second century *Nyāyasūtra* 3.1.33. Vācaspatimiśra was a prolific Advaita Vedānta philosopher of the tenth century. Potter, *Indian Metaphysics and Epistemology*, 7.

<sup>49</sup> .... | *evam indriyārthavyabhicaraṇe 'pi yadā rūpaṃ grhṇāti tadā rūpagrāhakaṃ, yadā gandhaṃ grhṇāti tadā gandhagrāhakaṃ ityādi vācyaṃ; evaṃ saṅkalpavyābhicaraṇe 'pi vyākhyeyaṃ, tatra saṅkalpaḥ pratipannānāṃ bhāvānāṃ upakāraṃ mamedam apakāraṃ mamedam iti vā guṇato doṣato vā kalpanam; etad vyabhicaraṇe ca kadācid guṇakalpakam kadācid doṣakalpakam iti manobhedo vyākhyeyaḥ | tathā ekapurūṣe ekam eva mano yadā bahurajoyuktaṃ bhavati tadā krodhādīmad bhavati, yadā bahutamoyuktaṃ bhavati tadā 'jñānabhayādīmad bhavati, yadā sattvayuktaṃ bhavati tadā satyaśaucādiyuktaṃ bhavati, tataś cānekam iva mano bhavati | tadetat pratipāditam anekatvaṃ paramārthato na bhavatīty āha—na cetyādi | na cānekatvaṃ manasa ity arthaḥ | cakārād amahattvaṃ ca manasa iti samuccinoti | yad uktam—“anūtvam atha caikatvaṃ dvau guṇau manasaḥ smṛtau” (śā ā 1) iti | kuto nānekatvaṃ ity āha—na hīty ādi | anekam ekakālam anekeṣu pravartate; anekam yan manaḥ devadattayajñadattaviṣṇumitreṣu śārīreṣu dr̥ṣṭam tad ekakālam yugapad anekeṣu rūpajñānaśabdajñānagandhajñāneṣu vartate evaṃ dr̥ṣṭam, tad yadi ekapurūṣe 'pi bahūni manāṃsi syus tadā tāny api yugapad ekapurūṣa eva rūpādijñāneṣu pravartana, na tu pravartante, tasmād ekam evaikapurūṣe mana ity arthaḥ | dīrghāṃ śaṅkulīm bhakṣayato yugapat pañcājñānāny utpadyanta iti tu jñānam yugapad utpalapatrasatavyaktibhedajñānavad bhrāntam | paramārthato yugapajñānotpattau hi sati viśayasannikarṣe sarvadaiva hi yugapaj jñānāni syuḥ | ata eva hi kāraṇān mahattvam api manaso nāsti, mahattve hi sati yugapatpañcendriyādhiṣṭhānāj jñānotpattiḥ syāt, na ca bhavati, tasmād ekam aṇu*

And whichever attribute the person has frequently, the mind follows. The sages name the one having that [type of] mind because of ample connection [with the attribute].<sup>50</sup>

The sense faculties, led by the mind, are capable of perceiving objects.<sup>51</sup>

[Cakrapāṇidatta]: Mind is mentioned as being the basis for the activity of the sense faculties. He explains that [with the phrase] “mind, etc.” “Led by the mind,” [means] superintended by the mind.<sup>52</sup>

Therein, sight, hearing, smell, taste, [and] touch (*sparśana*), are the five sense faculties.<sup>53</sup>

[Cakrapāṇidatta]: The five sense faculties are mentioned, he explains thus, “therein, sight,” etc. “Sight” [means] it sees form and makes the thing possessing form visible. And that [faculty], having its abode in the two eyeballs, is only one. “Hearing” [means] with this one hears. “Smell” [means] with this one smells. “Taste” [means] with this one tastes, one enjoys. “Touch” [means] with this one touches (and feels touch).<sup>54</sup>

The material bases of the five elements are, thus, space, air, fire, water, [and] earth.<sup>55</sup>

[Cakrapāṇidatta]: The material basis of the sense faculties is the initiating substance of the sense faculties according to predominance. In reference to the sense faculties, sight is explained first because of importance. As is stated in the branch of medicine addressing the use of sharp instruments in the eye, “Even endowed with the best ears, skin, tongue, even possessing strength and complexion, etc., a person who has lost their sight resembles a wall.”<sup>56</sup> But in the exposition on the material basis of the senses according to the state of origination, the written exposition will explain, “the five elements, ether, air, fire, water, and earth, in that way” (*Śā* 1)<sup>57</sup> following the arrangement in the treatise.<sup>58</sup>

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*ca mana iti | yasmāc caikapuruṣe ekaṃ mano 'ṅuparimāṇaṃ ca, tasmāt kāraṇān naikakālā sarvendriyapravṛtīḥ na yugapadindriyāni svaviśayopalabdḥau pravartanta ityārthaḥ | indriyāni mano 'dhiṣṭhitāni pravartate, tena yadā manaś cakṣuradhitiṣṭhati tadā na ghrāṇādīni, evaṃ yadā ghrāṇam adhiṣṭhati tadā na cakṣurādīni || Carakasamhitā, 55–56.*

<sup>50</sup> *yadguṇaṃ cābhikṣṇaṃ puruṣam anuvartate sattvaṃ tatsattvam evopadiśanti munayo bāhulyānuśayāt || CS Sū 8.6*

<sup>51</sup> *manahpuraḥsarāṇīndriyānyarthagrahaṇasamarthāni bhavanti || CS Sū 8.7*

<sup>52</sup> *uktaṃ manaśceṣṭāpratyayabhūtam indriyāṇāṃ tadvyākaroti—mana ityādi | manahpuraḥsarāṇī manodhiṣṭhitāni || Carakasamhitā, 56.*

<sup>53</sup> *tatra cakṣuḥ śrotraṃ ghrāṇaṃ rasanāṃ sparśanamiti pañcendriyāni || CS Sū 8.8*

<sup>54</sup> *pañcendriyāṇīty uktaṃ tad vivṛnoti—tatra cakṣur ityādi | caṣṭe rūpaṃ rūpavantaṃ ca prakāśayatīti cakṣuḥ | tac cobhayanayagolakādhiṣṭhānam ekaṃ eva | śṛṇoty aneneti śrotram | jighraty aneneti ghrāṇam | rasatyākhādayaty aneneti rasanam | sprśaty aneneti sparśanam || Carakasamhitā, 56.*

<sup>55</sup> *pañcendriyadravyāni khaṃ vāyurjyotirāpo bhūriti || CS Sū 8.9*

<sup>56</sup> I have not yet found the source for this citation.

<sup>57</sup> *CS Śā 1.27*

<sup>58</sup> *indriyāṇāṃ prādhānyenārambhakaṃ dravyam indriyadravyam; indriyeṣu cakṣurādau nirdiṣṭaṃ, prādhānyāt | yad uktaṃ śālākye “śrotratvakghraṇarasanaiḥ śreṣṭhair api samanvitaḥ | balavarṇādyupeto 'pi naṣṭadṛk kuḍyasannibhaḥ” iti | indriyadravyanirdeśo tu uditatvena nirdeśaḥ kṛto vaksyamāṇena*

The seats of the five sense faculties are, thus, eyes, ears, nostrils, tongue, and skin.<sup>59</sup>

[Cakrapānidatta]: “A seat of the sense faculty” is a dwelling place of the sense faculty. Even if there are two eyes, two ears, two nostrils, there is only one [seat] as the location of one sense faculty. Therefore, it is stated that they are “five.”<sup>60</sup>

The objects of the five senses are sound, touch (*sparśa*), form, flavor, [and] odor.<sup>61</sup>

[Cakrapānidatta]: “Sense objects” [means] the objects of the senses. And here, the word “touch” means touch (as an object), the abode of touch, the material (air) closely connected as one and the same object of touch, and that which is to be perceived by touch, measurement, etc. That is also to be explained, similarly, in reference to form, etc.<sup>62</sup>

The perceptions of the five senses, the perception of sight, etc., they again, arise from the conjunction of the sense faculty, sense object, mind, and self, they are momentary, and they consist of ascertainment. This, here, is the five sets of five.<sup>63</sup>

[Cakrapānidatta]: The “perceptions of the five senses” are perceptions named after the respective sense faculty with [its] specific cause. The perception of sight is the perception produced by seeing, [which is] its specific cause. It is to be explained likewise in reference to the hearing perceptions etc. Here, sight-perception is explained first because of sight perception’s state of having many objects. He explains the apparatus of the production of the sense-perceptions, “they again,” etc. “Conjunction” is connection, and sometimes it is separable (*saṃyoga*), sometimes it is inseparable concomitance (*samavāya*), therefore, during sight perception the self is joined with the mind, mind with a sense faculty, the sense faculty with an object (this is *saṃyoga*). But during hearing perception there is invariable concomitance (*samavāya*) of hearing and sound, that is the difference. “Momentary” means they are more quickly perishable, but not that they abide for one instant as in Buddhist doctrine.<sup>64</sup> “Consist of ascertainment” means that they

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“mahābhūtāni khaṃ vāyur agnir āpaḥ kṣitis tathā” (śā. a. 1) iti granthakramānurodhena || Carakasamhitā, 56.

<sup>59</sup> pañcendriyādhiṣṭhānāni akṣiṇī karṇau nāsike jihvā tvak ceti || CS Sū 8.10

<sup>60</sup> indriyādhiṣṭhānam indriyāśrayaḥ | yady api cākṣiṇī karṇā nāsāpuṭe dve tathā 'pi ekendriyādhiṣṭhānatvenaikam eveti kṛtvā “pañca” ity uktam || Carakasamhitā, 56.

<sup>61</sup> pañcendriyārthāḥ śabdasparsārūparasagandhāḥ || CS Sū 8.11

<sup>62</sup> indriyārthā indriyaviṣayāḥ | atra ca sparśagrahaṇena sparśasya sparśāśrayasya ca dravyasya sparśaikārtasamavetasya ca parimāṇādeḥ sparśagrāhyasya grahaṇam | evaṃ rūpādiṣv api vācyam || Carakasamhitā, 56.

<sup>63</sup> pañcendriyabuddhayaḥ cakṣurbuddhyādikāḥ tāḥ punar indriyendriyārthasattvātmasannikarṣajāḥ kṣaṇikā niścayātmikāḥ ca ity etat pañcapañcakam || CS Sū 8.12

<sup>64</sup> Alexander von Rospatt notes that in Buddhist sources, the term *kṣaṇa*, “moment,” can refer to different conceptions of a tiny unit of time or “the momentary entity itself” (*The Buddhist Doctrine of Momentariness*, 100). The notion of momentariness itself, broadly speaking, is in reference to “existence within time” (1). Von Rospatt concludes that it is impossible to conclusively date the earliest iterations of this concept, but that they likely arose in the second century CE, or perhaps earlier (19, 25).

consist of differentiating the innate form of objects. So too, in reference to momentariness, the state of the sense perceptions' distinguishing of objects, like the burning flames of a lamp, is non-contradictory, that is the meaning.<sup>65</sup>

Mind, objects of mind, intellect, and self, these are the conglomeration of materials and attributes belonging to the self, and the cause of beneficial and non-beneficial action and inaction. And action, which is called “*kriya*,” has an abode in substance.<sup>66</sup>

Therein, among the extant sense faculties, which consist of the aggregate of the derivatives of the five elements and are understood through inference, fire enters into sight, space into hearing, earth into smelling, water into tasting, air into touching, because of the specific properties [of the predominant element]. Therein, the sense faculty consisting of a particular element, because of the specific properties [of the element], perceives only the sense object consisting of that [element], because of its nature and abundance.<sup>67</sup>

Because of the excessive use, non-use, or improper use of its object, the sense faculties along with mind, [each] in its own way, is caused to enter into a changed state through injury to [sense] perception. Furthermore, due to proper use, [each] in its own way, enters a natural state that causes [sense] perception to thrive.<sup>68</sup>

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*Carakasamhitā Sūtrasthāna* 8.12 presents the idea that sense perceptions, the phenomena which take place upon the conjunction of “sense, sense object, mind and self,” are momentary or transient (*kṣaṇika*). By Cakrapānidatta’s time, centuries of debate over the concept had ensued, both across Buddhist schools and in dialogue with Brahmanic scholars. The commentator makes a point distinguishing the concept being set forth in the *Carakasamhitā* from “Buddhist doctrine,” although as von Rospatt demonstrates, across Buddhist schools there is not a static unified position on the concept (Von Rospatt, *The Buddhist Doctrine of Momentariness*). *Carakasamhitā Śārīrasthāna* 1.46–51 contains a specific statement and refutation of the Buddhist doctrine of momentariness, on the following grounds: “The theory of momentary states contradicts the accepted doctrine of *karman*. Therefore, an eternal (*nitya*) *puruṣa* must exist who is “the cause for the enjoyment of *karman*” (*kāraṇaṃ kriyopabhoge*).” Hellwig, “The Theory of the Puruṣa in *Carakasamhitā*, Śārīrasthāna 1.1,” 40.

<sup>65</sup> *asādhāraṇena kāraṇenendriyeṇa vyapadiṣṭā buddhaya indriyabuddhayaḥ | cakṣuṣā asādhāraṇena kāraṇena janitā buddhiḥ cakṣurbuddhiḥ; evaṃ śrotṛādibuddhiṣu vācyam | iha cakṣurbuddhir ādāv upadiśyate, cakṣurbuddher eva bahuvīśayatvāt | indriyabuddhyutpādasāmagrīm āha—tāḥ punar ityādi | sannikarṣaḥ saṃbandhaḥ; sa ca kvacit saṃyoga; kvacit samavāyah; tena cakṣurbuddhyāv ātmā manasā saṃyujyate, mana indriyeṇa, indriyam arthena; srotṛabuddhau tu śrotṛasabdayoḥ samavāya iti viśeṣaḥ kṣaṇikā iti āsutaravināśīnyaḥ, na tu bauddhasiddhāntavad ekakṣaṇāvastāyīnyaḥ | niścayātmikā vastusvarūpaparicchedātmikā | kṣaṇikatve 'pi vastuparicchedakatvaṃ pradīpārcirjvalanavad buddhīnām ity arthaḥ || Carakasamhitā, 56–57.*

<sup>66</sup> *mano manortho buddhir ātmā cety adhyātmadravyaguṇasamgrahaḥ śubhāśubhapravṛttinivṛttihetuś ca dravyāśritaṃ ca karma yaducyate kriyetei || CS Sū 8.13*

<sup>67</sup> *tatrānumānagamyānām pañcamahābhūtavikārasamudāyātmakānām api satām indriyānām tejaś cakṣuṣi khaṃ śrotre ghrāṇe kṣitiḥ āpo rasane sparśane 'nilo viśeṣeṇopapadyate | tatra yad yad ātmakam indriyaṃ viśeṣāt tat tad ātmakam evārtham anuḡrḥṇāti tatsvabhāvād vibhutvāc ca || CS Sū 8.14*

<sup>68</sup> *tadarthātiyogāyogamithyāyogāt samanaskam indriyaṃ vikṛtim āpadyamānaṃ yathāsvaṃ buddhy upaghātāya saṃpadyate sāmartyayogāt punaḥ prakṛtimāpadyamānaṃ yathāsvaṃ buddhim āpyāyati || CS Sū 8.15*

But the object of the mind is that which is to be thought. Therein, balanced, excessive, deficient, and improper uses [of the mind and its objects] are the causes of natural state and changed state of the mind and of the mind's intellect.<sup>69</sup>

As this passage demonstrates, the proper use and function of the sense faculties, guided by the mind, is understood by the treatise as critical to health. However, it does not describe the mechanism of contact between the sense faculty and the mind that we will find specified in *Sūtrasthāna* chapter 11. This primacy of the senses is not only pertinent to the patient and disease, but also to the body of the physician. In the next two chapters we will delve into physician's sensory expertise, focusing on touch, in the diagnostic practice of physicians as represented in the early treatises (Chapter Two) and in contemporary Kerala (Chapter Three).

### The Special Status of *sparśa* in the *Carakasamhitā*

The link between use of the senses and disease explained in the exposition translated above is reiterated and expanded upon in *Carakasamhitā Sūtrasthāna* chapter 11, which also introduces the notion of the pervasive and mediating nature of the touch faculty among the senses. Here, I will examine this passage alongside a section of the *Carakasamhitā Śārīrasthāna*, which also notes the special status of the touch faculty, along with mind, in its capacity to impact health (*sukha*) and disease (*duḥkha*).

The passage I turn to first, from *Carakasamhitā Sūtrasthāna* chapter 11, is found in the context of a list of sets of three. The section translated here follows a passage on the means of valid knowledge (*pramāṇa*) that I translate and discuss in detail in Chapter Two of this dissertation. *Carakasamhitā Sūtrasthāna* 11.37 reiterates the causes for disease:

There are three causes of disease, excessive use, non-use, or improper use of sense objects, activities, and time.<sup>70</sup>

The treatise proceeds to explain what this entails for each of the sense faculties: sight, hearing, smell, and taste. Then we find a description of the ways that the miscalibrated use of touch-objects can cause disease:

Likewise, frequently engaging in very cold or hot touchable objects and bath, rubbing with oil, and rubbing with paste, etc., is the excessive use [of the objects of touch]. Not engaging in all of these things is non-use. Improper use is non-successive use of bathing, etc., and cold and hot tangibles, and striking rough places, contact with unclean beings, etc.<sup>71</sup>

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<sup>69</sup> *manasas tu cintyam artham | tatra manaso manobuddheś ca ta eva samānātihīnamithyāyogāḥ prakṛtivikṛtihetavo bhavanti || CS Sū 8.16*

<sup>70</sup> *trīṇy āyatanānīti—arthānām karmaṇaḥ kālasya cātyogāyogamithyāyogāḥ | ... CS Sū 11.37*

<sup>71</sup> *tathā 'tīśītoṣṇānām sprśyānām snānābhyaṅgotsādanādīnām cātyupasevanam atiyogaḥ, sarvaśo 'nupasevanam ayogaḥ, snānādīnām śītoṣṇādīnām ca sprśyānām anānupūrvyopasevanam viśamasthānābhighātāsucibhūtasamsparsādayaś ceti mithyāyogaḥ || CS Sū 11.37*

Cakrapāṇidatta suggests that “beings” are living beings beginning with *piśācas*, a type of ferocious being (*bhūtāḥ prāṇinaḥ piśācaprabhṛtayaḥ. Carakasamhitā 75*).



This passage shows that the types of tactile treatments practiced, such as bathing and rubbing with oil and paste, which I will address in Chapter Four, are regarded as potential causes for disease when misused. Additionally, contact with roughly textured things as well as contact with unclean beings (*aśucibhūta*) are understood to bring about illness. Zysk notes of the early Āyurvedic treatises, “The Indian physicians recognized that disease could be transmitted by physical contact, but they did not develop a theory of contagion based on their observations.”<sup>72</sup> Rahul Peter Das and Zysk have both studied the ways that different types of contact were understood to bring about illness in the classical treatises, so I have not addressed that in detail here.<sup>73</sup> In this passage the term *aśucibhūta*, “unclean/impure being,” is glossed by Cakrapāṇidatta as *piśāca* (a type of flesh-eating being), etc. Reading this alongside Frederick Smith’s outline of the types of *bhūtas*, “existing beings” (including an array of beings ranging from *devas* to *gandharvas* to *piśācas*) described in the *Carakasamhitā* in sections addressing the external causes of madness (*unmāda*), we might understand this as a reference to possession as a disease-causing form of contact, or touch.<sup>74</sup>

In the next statement, the sense of touch is singled out as especially important amongst the senses, with no similar attention given to the other four sense faculties. According to the prose of *Carakasamhitā Sūtrasthāna* 11.38,

Therein, only the touch faculty, amongst the senses, pervades the sense faculties. It is inseparably connected with the mind. The mind also pervades the pervasion of the sense faculties by touch. Thereby, a specific type of state of the sense faculties is caused by pervading touch. That [state] itself, due to aggravating circumstance, is the unwholesome union with sense objects that is divided fivefold and then threefold. For the purpose of alleviation, indeed, [the state is] wholesome [conjunction with] sense objects.<sup>75</sup>

According to the *Carakasamhitā*, touch is all-pervasive among the sense faculties because of its association with mind, and we have seen the primacy of mind in the process of sensing as represented in the *Sūtrasthāna*. The touch faculty plays a critical role in mediating between the other senses and the mind, facilitating perception. My translation literally renders “the touch faculty” (*sparśana*) among the sense faculties, indicating that the passage is not referring to contact more broadly but the touch faculty itself. But what precisely is the role of the touch faculty? As we see from the passage, the touch faculty as a mediator can be responsible for a positive or negative change of state bringing about health or illness. But the precise mechanism is not elucidated in the *Carakasamhitā*. Cakrapāṇidatta’s interpretation, which I have translated below, the touch faculty is understood to facilitate the grasping of an object by its respective sense faculty. Then, the mind moves along with the touch faculty to the site of the respective sense faculty where perception takes place.

Cakrapāṇidatta anticipates an objection from a scholar versed in the passages we examined from the first and eighth chapter of the *Sūtrasthāna*, which do not explicitly note any special qualities of touch among the senses, but instead prioritize the importance of mind in

<sup>72</sup> Zysk, “Does Ancient Indian Medicine Have a Theory of Contagion,” 86.

<sup>73</sup> Zysk, 86; Das, “Notions of ‘Contagion’ in Classical Indian Medical Texts.”

<sup>74</sup> Smith, *The Self Possessed*, 488–490.

<sup>75</sup> *tatraikaṃ sparśanam indriyāṇām indriyavyāpakaṃ cetaḥsamavāyi sparśanavyāpter vyāpakam api ca cetaḥ; tasmāt sarvendriyāṇām vyāpakasparśakṛto yo bhāvaviśeṣaḥ so ’yam anupaśayāt pañcavidhas trividhavikalpo bhavaty asātmendriyārthasamyogaḥ; sātmyārtho hy upaśayārthaḥ || CS Sū 11.38*

sensing. In support of his interpretation of the passage, he marshals evidence from the *Śārīrasthāna* (“Section on the Body”) of the *Carakasamhitā*, which I will turn to in a moment. This commentarial passage also begins to grapple with the question of whether one can perceive with multiple sense faculties at the same time, and it concludes that simultaneous engagement of the sense faculties is not possible. Cakrapāṇidatta glosses:

Are there not five sense faculties, sight, etc., and therefore, their specific five types of unwholesome use of sense objects? Then, how is one [sense faculty] named in reference to unwholesome use of the sense objects? Having raised this doubt [and] having shown the touch faculty’s pervasiveness among all of the sense faculties, he explains that touch, accompanied by all of the sense faculties, possesses the single form effecting the grasping of sense objects. And hence, he explains, “unwholesome conjunction with sense objects” having one form (the touch faculty), when it arises because of the touch faculty’s unwholesome use of sense objects—by the section beginning with, “therein, only” and ending with, “for the purpose of alleviation, indeed, [the state is] wholesome [conjunction with] sense objects.” “Only touch” [means] only the touch faculty and not the others, sight, etc. “Among the senses” [means] one out of six.

“Pervades the senses” [means] it pervades the sense faculties [such as] sight, etc. Indeed, touch is within all of the sense faculties. Hence, only having touched, do the sense faculties grasp their objects. If so, how is there not always a perceiving of the sense objects? Hence, [he states] “mind,” etc. And in our view, the hearing faculty, in relation to the five elements, has the form of [the element of] space upon entering the ear-orifice, thereby, it also has touch. “Inseparably connected with the mind” [means] adjunct to the mind. By stating that it is connected with the mind and grasps objects, he illustrates the capacity of touch. Mind is superintendent of the sense faculties because of perceiving sense objects. Then, what impels all of the sense faculties, because of the relationship of touch—which pervades all of the senses—with mind, located in a single place having minute measure? Likewise, is there a conjunction of the arising of the five sense knowledges simultaneously? He explains, “The mind also pervades those [senses faculties] pervaded by touch,” etc. “Those [sense faculties] pervaded by touch” [means] the pervasion of the sense faculties by touch. Mind is also pervading these.

This is stated: to the extent that touch resides in a location, to that extent, mind also moves to that place, for the purpose of perceiving objects by sensory perception (*pratyakṣa*). Therefore, when the mind is present in a certain location (the abode of a specific sense faculty), then with that location, taking the form of the sight faculty, etc., it perceives the object; sensory knowledges do not arise simultaneously. He ties the topic together: “Therefore,” etc., “pervading touch” [means] the two, pervading and touch, thereby, their connection is established. “Type of state” of all the sense faculties—the sense is that touch becomes the cause for perception of the sense faculties each having their own type of state. In reference to which is stated, “The initiator of sensations of well-being and dis-ease is twofold, contact with the touch faculty and mental contact alone (*Śā* 1.133).<sup>76</sup> Here, in the verse, as stated by the words “contact with the touch faculty,” contact of all the sense faculties is accomplished by the connection with the touch faculty. But it also arises through contact of mind with the existing object to be

<sup>76</sup> I translate and discuss this passage cited by Cakrapāṇidatta, from the *Carakasamhitā Śārīrasthāna*, below.

considered, therein, this will be expounded. Here, where it says “a specific type,” “it is,” is to be supplied. “That itself,” [means] the unwholesome use of sense objects of touch, having a single form which pervades all of the sense faculties. “Because of aggravating circumstance” [means] because of the state of being an agent of suffering. “Fivefold” [refers to] the unwholesome use of sense objects of sight, use of unwholesome sense objects of smell, etc. The form, again, being divided threefold into non-use, excessive use, and misuse. That is the sense. And thus, [it is] one type having three sub-types, in this way fifteen types of unwholesome use of sense objects are described.

By the word “aggravating circumstance” the specific types of aggravating sense objects in relation to sight, etc., because of the specification of the fivefold causality of the unwholesome use of sense objects, is to be understood. Indeed, the multiple form of aggravating circumstance is able to affect the fivefold-ness of the unwholesome (use of) sense objects. And because the injuring form—of sight’s radiance, etc.—is different for each [sense faculty], hence also because of the pervasion of the touch faculty, the sense faculties (sight, etc.) don’t have the state of oneness of the touch faculty. Indeed, in the case of oneness, if there was the injuring of one sense faculty the others would also be injured, this is to be understood.<sup>77</sup>

Following this passage, in *Carakasamhitā Sūtrasthāna* 11.43, the threefold cause of disease is restated as unwholesome contact of the senses with their objects

<sup>77</sup> *nanu cakṣurādīni pañcendriyāṇi, atas teṣāṃ pratiniyatāḥ pañcāsātmyendriyārthasamyogāḥ, tat katham eko 'sātmyendriyārthasamyoga ity ākhyāyata ity āsaṅkya sparśanendriyasya sarvendriyavyāpakatvaṃ darśayitvā sarvendriyānugataṃ sparśam arthagrahaṇakāraṇam ekarūpaṃ darśayati, tatas ca tasyaikasyāsātmyendriyārthena samyogād upapanna ekarūpo 'sātmyendriyārthasamyoga iti darśayati— tatraikam ityādinā sātmyārtho hy upaśayārtha ity anena | ekam sparśanam iti sparśanendriyam eva, nanyac cakṣurādi | indriyāṇām iti nirdhāraṇe ṣaṣṭi | indriyāṇi cakṣurādīni vyāpnotītīndriyavyāpakam; sparśanam hi sarveṣv indriyeṣv asti, ata eva sprṣṭvaivārtham indriyāṇi grhṇanti | tarhi katham na sarvadā 'rthagrahaṇam bhavātīty ata āha—ceta ity ādinā | śrotram cāsmad darśane pāñcabhautikam karnaśaṣkulīgatanabhorūpaṃ, tena tasyāpi sparśo 'sti; cetaḥsamavāyi manaḥsaṃbandhi; manaḥsaṃbandhakathanena cārthagrahaṇam prati samarthatvaṃ sparśasya darśayati, mano 'dhiṣṭhitānām indriyāṇām arthagrāhakatvāt | tat kim aṅuparimāṇena manasaikatrasthiteṇaiva sparśanasya sarvendriyavyāpakasya saṃbandhāt sarvendriyāṇi pravartante, tathā sati yugapatpañcajñānotpattiprasaṅga ity āha—sparśanendriyavyāpter vyāpakam api ceta iti | sparśanendriyāṇām vyāptiḥ sparśanendriyavyāptiḥ, tasyās ceto 'pi vyāpakam; etad uktaṃ bhavati— yāvati pradeśe sparśanam tiṣṭhati tāvantaṃ deśam mano 'pi bhramati pratyakṣeṇārthagrahaṇārtham, tena yasmin pradeśe yadā mano vartate tadā tena pradeśena cakṣurādirūpeṇārtham grhṇātīti na yugapajñānotpattiḥ | prakṛte yojayati—tasmād ityādi | vyāpakaś cāsau sparśaś ceti vyāpakasparśaḥ, tena kṛtas tannibandhanaḥ; sarvendriyāṇām bhāvaviśeṣaḥ svabhāvaviśeṣo 'rthagrahaṇakāraṇībhūtaḥ sparśa ity arthaḥ, yam adhikṛtyoktam—“sparśanendriyasamsparśaḥ sparśo mānasa eva ca | dvividhaḥ sukhaduḥkḥānām vedanānām pravartakaḥ” (śā a 1) iti; atra śloke sparśanasaṃbandhakṛtaḥ sarvendriyasparśaḥ sparśanendriyasamsparśaśabdenoktaḥ, manasas tu sparśaś cintyena viśayena satā 'pi saṃbhavātīti tatraiva vyākhyeyam | viśeṣa ity atra 'asti' iti śeṣaḥ | so 'yam ekasyendriyavyāpakasya sparśasyaika-rūpo 'sātmyendriyārthasamyogaḥ, anupaśayād iti duḥkḥakarṭṛtvāt, pañcavidhaḥ cakṣurasātmyendriyārthasamyogo ghrāṇāsātmyendriyārthasamyoga ityādi rūpaḥ san punas trividhavikalpo bhavati—ayogātiyogamithyāyogeneti bhāvaḥ | yataś cakṣurādīnām pratiniyatāny evopaghātakāny atibhāsvarūpādīni, tatas ca sparśendriyavyāptyā 'pi naikasparśanendriyatvaṃ cakṣurādīnām, ekatve hy ekendriyopaghātakam anyeṣāṃ apy upaghātakam syād iti mantavyam | Carakasamhitā, 55–56.*

(*asātmyendriyārthasamyoga*), transgression of wisdom (*prajñāparādha*), and transformation (*pariṇāma*). Read along with *Carakasamhitā Sūtrasthāna* 11.38, this further emphasizes the touch faculty's central role in Āyurvedic disease etiology, as the touch faculty superintends all contact between the sense faculties and their objects.

The *Carakasamhitā Śārīrasthāna* (“Section on the Body”) 1.16–35 presents three descriptions of “*puruṣa*,” man, or spirit, the first is a medical definition and the other two relate to early forms of Sāṃkhya.<sup>78</sup> Sāṃkhya, meaning “enumeration,” is a dualist ontological system that explains the creation and evolutes of the universe. According to the basic schema of Sāṃkhya cosmology, the two main elements of the universe are the masculine *puruṣa* (soul) and feminine *prakṛti* (material nature). Influenced by the three attributes (*guṇas*), *prakṛti* differentiates into the other essences (*tattvas*). In the first explanation, *puruṣa*, referring to a human being, is made of six elements (*dhātu*), the five *mahābhūtas* (elements: earth [*bhū*], water [*āpas*], fire [*tejas*], air [*vāyu*], and ether/space [*ākāśa*]), along with *cetanā* (consciousness/sentience). The second part of the verse, which Oliver Hellwig relates to early Sāṃkhya, states that *cetanā* alone is equated with *puruṣa*.<sup>79</sup> The third description, representing an early form of Sāṃkhya, is an enumeration of twenty-four elements (*dhātu*) and a form of unmanifest (*avyakta*) *puruṣa* that exists along with the unmanifest aspect of *prakṛti*.<sup>80</sup> In *Carakasamhitā Śārīrasthāna* 1.17, the elements (*dhātu*) are listed as mind (*manas*), ten sense faculties (*indriyas*—indicating the five sense perception [*buddhīndriya*] and the five action organs [*karmendriya*]) five sense objects (*artha*), and the eightfold *prakṛti*, which Cakrapāṇidatta glosses as made up of the five elements (*mahābhūta*), ego (*ahamkāra*), intellect (*buddhi*), and consciousness/sentience (either *avyakta* or *cetanā*). According to *Carakasamhitā Śārīrasthāna* 1.24, the sense faculties evolved from the five elements and each of them predominates in one of the elements. Each of the elements has the attribute of the corresponding sense object, plus all prior sense objects (*CS Śā* 1.28). So, for example, according to the order of elements and sense object—*ākāśa* (space)/*śabda* (sound), *vāyu* (air)/*sparśa* (touch), *agni* (fire)/*rūpa* (form), *jala* (water)/*rasa* (taste), *pṛthvī* (earth)/*gandha* (smell)—space has the attribute of sound, wind has the attributes of sound and touch, and so forth.

After explaining these evolutes, the treatise makes a special point of explaining that the qualities inherent in all of the different elements are, in fact, perceptible to the touch faculty. In the following passage, the mention of the inverse or absence of touch being perceptible by the touch faculty implies that the touch faculty can perceive even the element of space, which occurs before it in the list.

<sup>78</sup> According to Dasgupta, the form of Sāṃkhya expounded by Caraka is quite similar to the system explained by Pañcaśikha, said to be the direct pupil of Āsura the pupil of Kapila, founder of the system. Dasgupta, *A History of Indian Philosophy*, Vol. 1, 216. Gerald Larson dates the *Sāṃkhyakārikā of Īśvarakṛṣṇa* the classical Sāṃkhya text, to between 300–600 C.E., concluding that prior to the *Sāṃkhyakārikā*, there was no one system or lineage of Sāṃkhya philosophy. Larson, *Classical Sāṃkhya*, 4.

<sup>79</sup> Cakrapāṇidatta associates the first definition of *puruṣa* with *Vaiśeṣika* philosophy. Oliver Hellwig convincingly argues that this does not correspond to the *Vaiśeṣikasūtra*, but that it is rather a definition specific to the medical treatises (with a similar passage found in the *Mahābhārata*), and that the second restrictive statement equating *cetanā* alone to *puruṣa* relates to early Sāṃkhya. Hellwig, “The Theory of the Puruṣa in *Carakasamhitā, Śārīrasthāna* 1.1,” 31–32.

<sup>80</sup> This is in contrast to the later classical Sāṃkhya system of 25 *tattvas* in which Larson notes, “there is an absolute separation between *prakṛti* and *puruṣa*.” Larson, *Classical Sāṃkhya*, 187.

The perceptible characteristics of earth, water, air, and fire are hardness, fluidity, movement, heat, and of space, non-obstruction, respectively.<sup>81</sup> All of these characteristics are the scope of the touch faculty. Indeed, touch with the inverse (lack of touch) is to be perceived by the touch faculty.<sup>82</sup>

[Cakrapānidatta]: He states the specific qualities of earth, etc., “hardness, etc.” Non-obstruction [means] non-impeding, that is to say, lacking tactility. Indeed, that having touch, interrupting movement, is not space, because of space’s quality of lacking touch. “All of these” [means] hardness, etc. “The scope of the touch faculty” [means] that which is to be known by the touch faculty. How is it that everything is to be known by the touch faculty? He states touch, etc. “With the inverse,” the sense is the absence of touch. That which perceives [the object of the] sense faculty also perceives its absence. Therefore, the lack of tactility of space is to be perceived by the touch faculty. This is reasonable.<sup>83</sup>

In this passage, the treatise emphasizes that the tactile sense organ is able to sense not only the presence of touch, but also its absence. This means that in addition to sensing the attributes corresponding to wind (in which it predominates), as well as fire, water, and earth, touch can be used, with inference, to sense the most subtle element, space.

Later in the same chapter we encounter a discussion of the ways that the abuse of each of the sense faculties in relation to their objects can lead to illness. In relation to touch, we find a passage that resembles *Sūtrasthāna* 11.37, cited above:

Affliction caused by the touch faculty is described succinctly as the non-use, excessive use, and insufficient use of those things to be touched. The improper use is described as the (improper) touch of (*saṃsparśa*) oil, cold and hot, and that which arises through the untimely contact with “existent beings,”<sup>84</sup> poison and wind.<sup>85</sup>

The treatise continues, in subsequent verses, summarizing the ways that use of the sense faculties can cause disease. Then, the treatise expresses the special status of *sparśa*, on par with the mind, in causing ease and disease.

<sup>81</sup> | *kharadravacaloṣṇatvaṃ bhūjalānilatejasām* |  
*ākāśasyāpratīghāto dr̥ṣṭaṃ liṅgaṃ yathākramam* || (CS Śā 1.29)

<sup>82</sup> *lakṣaṇam sarvam evaitat sparśanendriyagocaram* |  
*sparśanendriyavijñeyah sparśo hi saviparyayah* || (CS Śā 1.30)

<sup>83</sup> *bhūtānām asādhāraṇam lakṣaṇam āha—kharetyādi | apratīghātaḥ apratihānanam asparśatvam iti yāvat; sparśavad hi gativighātaḥ bhavati nākāśah, asparśavattvāt | sarvam evaitad iti kharatvādi | sparśanendriyagocaram iti sparśanendriyajñeyam | katham etat sarvaṃ sparśanendriyajñeyam ity āha—sparśanetyādi | saviparyaya iti sparśābhāva ity arthaḥ | yad indriyaṃ yat gr̥hṇāti, tat tasyābhāvam api gr̥hṇāti; tena, ākāśasyāsparśatvam api sparśanendriyagrāhyam iti yuktam | ...*

<sup>84</sup> Here I follow Frederick Smith’s translation of *bhūtavidyā* in an Āyurvedic context. Smith, *The Self Possessed*, 472. Here as above, this could refer to the contact of possession.

<sup>85</sup> *asaṃsparśo 'tisāṃsparśo saṃsparśa eva ca | spr̥śyānām saṃgrahēnōktaḥ sparśanendriyabādhakaḥ* || (CS Śā 1.120)  
*yo bhūtaviṣavātānām akālenāgataś ca yah | snehaśītoṣṇasaṃsparśo mithyāyogaḥ sa ucyate* || (CS Śā 1.121)

## *sparśa* in the *Carakasamhitā Śārīrasthāna* chapter 1 and the Buddhist Doctrine of Dependent Origination

What is notable about this discussion is its resemblance to the Buddhist doctrine of dependent origination (*pratītyasamutpāda*), and its use of technical terms from the list it comprises. In an article discussing the verses in the *Carakasamhitā Śārīrasthāna* that immediately follow the section I translate below, Dominik Wujastyk identifies an “eightfold path to recollection” and liberation in the *Carakasamhitā*. Calling the treatise, “profoundly syncretic,” he notes of the passage,

Its citations from Vaiśeṣika and Sāṃkhya treatises show its willingness to synthesize across philosophical divides. But it is the Buddhist technical vocabulary and the text’s focus on mindfulness as the most important yogic practice leading to liberation that strikes us most strongly. This suggests that Caraka integrated into his medical treatise an archaic yoga method that owed its origins to Buddhist traditions of cultivating *smṛti*.<sup>86</sup>

In the verses immediately preceding those studied by Wujastyk (verses translated below), we find further evidence of a Buddhist technical vocabulary and a progressive logic explaining the cause of existence (*bhava*), a progression that flows into the section outlining a path to liberation. Williams and Tribe illustrate the process by which liberation takes place in the doctrine of dependent origination, and its relation to the sensory experience:

Thus, the way to liberation lay in mindfulness, constantly watching sensory experience in order to prevent the arising of cravings which would power future experience into rebirths. Cravings occur subsequent to sensory experience. This is seen in the formula for “dependent origination” (q.v.; Sanskrit: *pratītyasamutpada*; Pāli: *patīccasamuppada*) for example, where it is held that conditioned by the six senses is sensory contact, conditioned by sensory contact is feeling, and conditioned by feeling is craving.<sup>87</sup>

The chain of dependent origination consists of twelve links that were compiled from earlier smaller lists.<sup>88</sup> The standard list of twelve consists of the following links, taken verbatim from the *Princeton Dictionary of Buddhism*’s translations and spellings (with my reformatting of the text):

(1) ignorance (Skt. *avidyā*, Pāli *avijjā*), (2) predispositions, or volitional actions (Skt. *saṃskāra*, Pāli *saṅkhāra*), (3) consciousness (Skt. *viññāna*, Pāli *viññāna*), (4) name and form, or mentality and materiality (*nāmarūpa*), (5) the six internal sense-bases (*āyatana*), (6) sensory contact (Skt. *sparśa*, Pāli *phassa*), (7) sensation, or feeling (*vedanā*), (8)

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<sup>86</sup> Wujastyk, “The Path to Liberation through Yogic Mindfulness in Early Ayurveda,” 36. Elsewhere in the article he translates *smṛti* as “recollection” and describes this as a form of “mindfulness.”

<sup>87</sup> Williams and Tribe, *Buddhist Thought*, 46.

<sup>88</sup> See Eviatar Shulman for references to scholarship surveying these debates about the origins of the list of twelve and whether it derived from shorter lists. Shulman, “Early Meanings of Dependent-Origination,” 303 n14. It is beyond the scope of the current study to examine the list in the *Carakasamhitā* in relation to these sub-lists to draw direct textual comparisons. But this is a matter that would merit future research.

thirst, or attachment (Skt. *trṣṇa*, Pāli *taṇhā*), (9) grasping, or clinging (*upādāna*), (10) existence or a process of becoming (*bhava*), (11) birth or rebirth (*jāti*), and (12) old age and death (*jarāmaraṇa*), this last link accompanied in its full recital by sorrow (*śoka*), lamentation (*parideva*), pain (*duḥkha*) grief (*daurmanasya*), and despair (*upāyāsa*).<sup>89</sup>

The passage from the *Carakasamhitā* that I translate below explicitly contains categories six through ten, in the same order as presented in the Buddhist doctrine. After continuing to describe the ways that misuse of the sense organs/objects causes illness, the treatise points to the primacy of *sparśa*, which here can be understood more broadly as contact. Karin Preisendanz argues that “most probably *phassa*, as a member of the *pañcikasamuppāda*, should *not* be interpreted physiologically.”<sup>90</sup> She traces evidence for the physiological and psychological interpretations of the term *phassa/sparśa* and, drawing upon the fifth century commentator Buddhaghosa, notes, “Buddhaghosa’s stand, however, is unequivocal: “contact” and “striking,” etc., though primarily physiological terms, are used in a psychological sense.”<sup>91</sup> In our passage from the *Carakasamhitā*, *sparśa* or contact with the touch faculty and with the mind are described as the two factors that can bring about *vedanā*, sensation, both positive and negative.<sup>92</sup> The next verse explains that *trṣṇā*, thirst or craving, arises and proceeds from sensation. The following verse explains that without *upādāna*, clinging, *bhava*, existence/becoming, does not come about. My translation begins a few verses before the introduction of *sparśa* as a cause of well-being and disease.

### *Carakasamhitā Śārīrasthāna 1.128–136*

The disease which arises from misuse, overuse, and non-use of sound, etc., is known by the sages as a disease relating to the sense faculties.<sup>93</sup>

These are known as the causes of disturbed sensations. But the only equivalent cause of well-being, equilibrated use [of the sense faculties], is difficult to attain.<sup>94</sup>

Not the sense organs nor the sense objects, alone, are the causes of disease and well-being. But the fourfold uses seen (above) are the cause of disease and well-being.<sup>95</sup>

<sup>89</sup> Buswell and Lopez, *The Princeton Dictionary of Buddhism*, 978–979.

<sup>90</sup> Preisendanz, “On *Ātmendriyamanorthasannikarṣa*,” 147 n29.

<sup>91</sup> *Ibid.*

<sup>92</sup> Hellwig attributes this text block and the notion that perception requires some form of contact, to both Vaiśeṣika and Nyāya, noting a similarity with *Nyāyasūtra* 3.2. He suggests that this section comes from non-Buddhist ideas, even though there is a Buddhist notion of *sparśa* leading to *vedanā* leading to *trṣṇā*, which is also found in the *Mahābhārata*. Hellwig, *The Theory of the Puruṣa in Carakasamhitā, Śārīrasthāna 1.1, 54*. Given the number of terms from the Buddhist philosophy of *pratītyasamutpāda*, I don’t share his certainty that a general notion of contact, in terms of the “psychological contact” that Preisendanz refers to, is not woven into this statement. Preisendanz, “On *Ātmendriyamanorthasannikarṣa*,” 147 n29.

<sup>93</sup> *mithyātihīnayogebhyo yo vyādhir upajāyate | śabdādīnām sa vijñeyo vyādhir aindriyako budhaiḥ || (CS Śā 1.128)*

<sup>94</sup> *vedanānām aśāntānām ity ete hetavaḥ smṛtāḥ | sukhahetuḥ samas tv ekaḥ samayogaḥ sudurlabhaḥ || (CS Śā 1.129)*

<sup>95</sup> *nendriyāni na caivārthāḥ sukhaduḥkhasya hetavaḥ |*

When the sense faculties and sense organs exist but there is no use (of them), then there is also no illness and no well-being, because the only cause is fourfold use.<sup>96</sup>

There is not well-being or disease without the self, sense faculties, mind, intellect, sense objects, or action. Just as it is to be understood, in that way it is stated [in this doctrine].<sup>97</sup>

The initiator of sensations (*vedanā*) of well-being and disease is twofold, contact (*sparśa*) with the touch faculty and mental contact alone.<sup>98</sup>

[Cakrapāṇidatta]: In this case he says, “touch faculty,” etc., to demonstrate that touch and mind relate to the senses to produce the use/union inherent with the entire cause [for sensations of well-being and disease]. By “contact with the touch faculty,” he shows the action of the touch faculty is connected with the objects of the sense faculties. Sight, etc., only perceive the touched (*spr̥ṣṭa*) object. Indeed, if untouched (*aspr̥ṣṭa*) sight, hearing, or smelling [could] perceive, then remote [objects] would also be perceived, and they are not perceived. Therefore, only having touched the sense faculties, an object is attained. But mental contact itself is similarly discrete, because of objects, to be considered, etc., through which the mind thinks only about something, not everything. Therefore, it is established that the mind only grasps that which is touched by the mind.<sup>99</sup>

Craving (*tr̥ṣṇā*), composed of desire and aversion, proceeds because of well-being and disease. And craving, in turn, is mentioned as the cause of well-being (*sukha*) and disease (*duḥkha*).<sup>100</sup>

Indeed, [craving] clings (*upādatte*) to the states of existence (*bhava*), known as the abodes of sensation. It is not experienced when there is non-grasping (*anupādāna*); without touch one does not know sensation.<sup>101</sup>

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*hetus tu sukhaduḥkhasya yogo dr̥ṣṭas̄ caturvidhaḥ* || (CS Śā 1.130)

<sup>96</sup> *santīndriyāṇi santy arthā yogo na ca na cāsti ruk* |

*na sukhaṃ, kāraṇaṃ tasmād yogo eva caturvidhaḥ* || (CS Śā 1.131)

<sup>97</sup> *nātmendriyaṃ mano buddhiṃ gocaraṃ karma vā vinā* |

*sukhaduḥkhaṃ, yathā yac ca boddhavyaṃ tat tathocyate* || (CS Śā 1.132)

<sup>98</sup> *sparśanendriyaṃsparśaḥ sparśo mānasa eva ca* |

*dvividhaḥ sukhaduḥkhānāṃ vedanānāṃ pravartakaḥ* || (CS Śā 1.133)

<sup>99</sup> *idāṇīm sakalakāraṇavyāpakam̄ yogaṃ vyutpādayitum aindriyakam̄ mānasaṃ ca sparśam̄ darśayitum āha—sparśanety ādi | sparśanendriyaṃsparśa ity anenendriyāṇāṃ arthena saṃbandhaṃ sparśanendriyakṛtaṃ darśayati; cakṣurādīny api spr̥ṣṭam̄ evārthaṃ jānanti; yadi hy aspr̥ṣṭam̄ eva caksuḥ śrotraṃ ghr̥ṇāṃ vā gr̥hṇāti, tadā vidūram̄ api gr̥hṇīyāt, na ca gr̥hṇāti, tasmāt spr̥ṣṭvaivendriyāny arthaṃ pratipadyate; mānasaḥ tu sparśas̄ cintyādīnā r̄thena samam̄ sūksmo 'sty eva, yena manaḥ kiñcid eva cintayati, na sarvaṃ; tena yan manasā spr̥ṣyate tad eva mano gr̥hṇātīti sthitiḥ* ||

<sup>100</sup> *icchādveṣātmikā tr̥ṣṇā sukhaduḥkhāt pravartate* |

*tr̥ṣṇā ca sukhaduḥkhānāṃ kāraṇaṃ punar ucyate* || (CS Śā 1.134)

<sup>101</sup> *upādatte hi s̄ bhāvān vedanāśrayasaṃjñakān* |

*spr̥ṣyate nānupādāne nāspr̥ṣṭo vetti vedanāḥ* || (CS Śā 1.135)



The seat of sensations is the mind and body with the sense faculties, with the exception of the head and body hair, the tip of the nails, food, bodily waste, urine, and attributes.<sup>102</sup>

In *Carakasamhitā Śārīrasthāna* 1.33 we find the notion that touch, or contact (*sparśa*) with the touch faculty (*sparśanendriya*) and the mind (*manas*) is the root cause for sensations. In this passage a clear distinction is made between contact and the touch faculty. Here, sensory contact, construed broadly, is key to the functioning of all of the senses. There is an inherent intersensoriality in this process, as contact is required for sensory stimulus to be perceived. Touch is on par with mind (*manas*) in terms of causation of the most basic sensations of well-being (*sukha*) and disease (*duḥkha*). As we have seen, touch pervades all of the sense faculties, it is the connection between the senses and the mind, and it has the capacity to sense not only presence, but also, absence. By making this last point, the treatises' author(s) duly emphasize that touch is indeed the all-pervasive, ultimately, all-mediating sense.<sup>103</sup>

### **Conclusion: Touch (*sparśa*), Wind (*vāyu*), Skin (*tvac*)**

This importance of touch that we have seen in the expositions of the *Carakasamhitā*, particularly in terms of disease etiology, may map onto the association of *sparśa* with air, *vāyu*. Air, which is the predominant component of the *vāta doṣa*, is the cause of all movement, and the element most likely to be disrupted and cause disease.<sup>104</sup> The *Carakasamhitā Sūtrasthāna* emphasizes *vāyu* as source of movement in the human body and in the world in an entire chapter devoted to the topic, which only mentions *pitta* and *kapha* briefly.<sup>105</sup> This is followed by a chapter on oleation, the prime pacifying and balancing factor for *vāyu*, or *vāta*, which I will discuss in Chapter Four of this dissertation, focusing on tactile treatments. Touch is capable of pacifying and directing the motion of *vāyu* in the body.

The connection between touch and wind is illustrated in a passage addressing the mechanics of ejaculation in the *Carakasamhitā Cikitsāsthāna* (“Section on treatment”) 2.4.46–2.4.49 that is part of an entire section devoted to discussion of *vājikarāṇa*, aphrodisiac therapy.<sup>106</sup> This passage, following a series of long and detailed descriptions of the preparation of aphrodisiac recipes, is the second part of a description of the physiology of seed (*śukra*) in the human body, emphasizing a nexus of wind (*vāyu*), seed (*śukra*), and touch. Key to an Āyurvedic understanding of the body is the notion of seven bodily tissues (*dhātus*) as successive byproducts of metabolism, chyme (*rasa*), blood (*rakta*), flesh (*māmsa*), fat (*medas*), bone (*asthi*), marrow

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<sup>102</sup> *vedanānām adhiṣṭhānaṃ mano dehaśca sendriyaḥ | keśalomanakhāgrānamaladravagaṇair vinā || (CS Śā 1.136)*

Cakrapāṇidatta glosses “attributes” (*guṇāḥ*) as sound etc., indicating the sense objects.

<sup>103</sup> It is worth mentioning that *rasa* (taste/flavor) also holds a central, though quite different role in Āyurveda, as the different types of flavor are critical properties determining the actions of foods and medicinal herbs. However *rasa* is not singled out in these sections describing Āyurvedic ontology. This is discussed at length in *CS Sū* 63–66 and the *rasa* of specific medicaments is discussed in a number of other places in the text, but not emphasized in the philosophical portions of the text that highlight touch. *Rasa*, a polyvalent term, here indicates the flavor properties of a food or medicine.

<sup>104</sup> However, the terms *vāyu* and *vāta* are also used interchangeably in the text to indicate wind.

<sup>105</sup> *CS Sū* 12.

<sup>106</sup> Some of the chapters of the *Cikitsāsthāna* are subdivided into quarters, thus the three quanta numbering system here.

(*majja*), and the most refined tissue, seed (*śukra*).<sup>107</sup> The treatise explains of seed,

Just as there is juice in the sugar cane, ghee in curd, sesame oil in sesame seeds, similarly, seed (*śukra*) moves everywhere in the body possessing the touch faculty (*saṃsparśana*).<sup>108</sup>

So, during sexual union between woman and man, because of pressing caused by activity and desire, seed streams forth from [its] abode, like water from a saturated cloth.<sup>109</sup>

Because of excitement, desire, and fluidity, and also because of slimyness and heaviness, and because of the state of flowing downwards due to tinyess and causing to flow/touching (*drutatva*) by the wind<sup>110</sup>—seed is made to flow from the body by means of these eight causes, moving towards the matter constituting the form of the self, as is stated.<sup>111</sup>

[Cakrapāṇidatta]: To explain the way in which seed arises, and in which seed, situated in the body, comes forth, he makes that [statement]: “juice,” etc. With three examples starting with sugar cane, he explains men having seed that is drawn forth by moderate effort, little effort, and great effort, according to order. “Possessing the touch faculty” [means] having the touch faculty, therefore, he demonstrates that there is not seed in the two [types of] hair, because of the non-pervasion of the touch faculty. “Union between woman and man” [means] sexual intercourse. “Activity” [means] the activity of intercourse, desire [means] passion for a woman, “pressing” is the mutual union of woman and man. And here, the union of woman with man is the chief cause. “Activity,” etc. is accompanying that. With the example of the wet cloth having an absence of damage to its source [when squeezed] he explains the flow of seed. Further, he also states the cause of seed coming forth, “because of excitement,” etc. “Excitement” [means] desire by the actor, from penile erection due to an excess of seed preceded by an intention [to have sex], etc. “Desire” [means] the desire of a woman. “Fluidity” [means] instability.

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<sup>107</sup> There is great ambiguity and debate regarding the nature of female reproductive fluids and capacity in both classical and contemporary ayurvedic literature. For a detailed philological analysis of the problem see Das, *The Origin of the Life of a Human Being*. In a section on abnormal embryological development, *Suśrutasaṃhitā Sārāsthāna* 2.47 reads, “When two amorous women mutually move reproductive fluid (*śukra*) in some way, a child with no bones is born.” *yadā nāryā vupeyātāṃ vṛṣasyantyau kathamcana/muñcataḥ śukram anyonyam anasthis tatra jāyate* || This verse is cited by Cakrapāṇidatta in the *Carakasamhitā* commentary in places where he feels that he must assure the reader that females do indeed possess *śukra*, but there is abiding ambiguity about its specific nature. For example, see CS *Sū* 1.105–113.

<sup>108</sup> *rasa ikṣau yathā dadhni sarpiṣ tailaṃ tile yathā | sarvatrānugataṃ dehe śukram saṃsparśane tathā* || (CS Ci 2.4.46)

<sup>109</sup> *tat strīpuruṣasaṃyoge ceṣṭāsaṃkalpapīdanāt | śukram pracyavate sthānāj jalam ādrāt paṭād iva* || (CS Ci 2.4.47)

<sup>110</sup> *harṣāt tarṣāt saratvāc ca paicchilyād gauravād api | aṇupravaṇabhāvāc ca drutatvān mārutasya ca* || (CS Ci 2.4.48)

<sup>111</sup> *aṣṭābhya ebhya hetubhyaḥ śukram dehāt prasicyate | carato viśvarūpasya rūpadravyaṃ yaducyate* || (CS Ci 2.4.49)

Here, I follow Cakrapāṇidatta’s gloss of *viśvarūpa* as *ātman*.

The nature of flowing downwards due to tinyess” [means] when there is tinyess there is the innate nature of flowing outwards. “And because of the wind’s causing to flow/touching (*drutatva*) of the wind” [means] because of the wind’s behavior of melting, setting seed in motion, that is the sense. And if these too are the causes, so too, due to predominance among the causes consisting of sexual union between woman and man, etc., presented at the beginning, these same are not counted at the end. “Moving” [means] moving among the categories of beings having a human or an animal, etc. for a mother. “Form of the self” [means] of the self.<sup>112</sup>

As Cakrapāṇidatta emphasizes in his commentary on this passage, *śukra* is only present in those parts of the body that are associated with touch (*saṃsparśa*). It is absent from hair and nails, substances understood to be waste products (*malas*) or bodily secretions formed during the process of metabolism that transforms food into the seven successively deep tissue substrates (*dhātus*). Rather, touch, residing in the skin, is present in other parts of the body through the mediating and sensing capacities of the skin. It is the touch of those places associated with touch that results in seed moving to the genitalia, resulting in male ejaculation.

In addition to being the means to procreate, in the *Carakasamhitā*, the contact of sexual interaction is treated as both a cause of disease and a form of treatment. It is to be engaged in the right place at the right time and with the right person for treatment, or in the maintenance of a healthy regime, as we will see in Chapter Four of this dissertation.<sup>113</sup> In *Carakasamhitā Sūtrasthāna* chapter 7, included in the list of urges (*vega*) that should not be borne/suppressed (*na dhārayet*), are those related to semen (*retas*, a word specifically denoting semen).<sup>114</sup> While sex, or sexual touch, is generally not to be overused, the chief concern in this chapter on aphrodisiacs is enabling the sexual performance of men. Cakrapāṇidatta’s gloss on the passage reflects this agenda, as he emphasizes to the reader that like a wet rag that is squeezed out but “remains intact,” a man who ejaculates with the support of aphrodisiacs will be just fine afterwards. This passage contrasts with the section of the *Carakasamhitā Śārīrasthāna*, on non-normative embryonic development, which I have written about elsewhere (*CS Śā* 2.17–2.21).<sup>115</sup> In the enumeration of non-normative sexual typologies, the *saṃskāravāhin*, a derogatory term, is glossed by Cakrapāṇidatta as an individual who must resort to aphrodisiacs in order to

<sup>112</sup> *saṃprati, sambhavati śukraṃ yathā dehe, sthitam yathā ca pravartate, tad āha—rasa ityādi | ikṣvādidrṣṭāntatrayeṇānatiprayatnālpaprayatnamahāprayatnavāhyaśukrān puruṣān yathākramam darśayati | saṃsparśane iti saṃsparśanavati, tena keśādu saṃsparśanāvyaṅgyeṣu śukram api nāstīti darśayati | strīpuruṣasamyogo miśrībhāvaḥ | ceṣṭā vyavāyaceṣṭā, saṅkalpo yoṣidanurāgaḥ, pīdanam nārīpuruṣayoḥ parasparasammūrchanam; atra ca nārīpuruṣasamyogaḥ pradhānam kāraṇam, tatsahakārīṇi ceṣṭādīni | ārdrapaṭadrṣṭāntenāśrayānupaghātena śukrasravaṇam darśayati | aparam, api śukrapravṛtтиhetum āha—harṣād ityādi | harṣaḥ saṅkalpapūrvakaśukrodrekadhvajocchrāyādīkāricchā | tarṣaḥ vanitābhilāṣaḥ | saratvam asthairyam | anupravaṇabhāvaḥ aṅutve sati bahir nirgamanasvabhāvaḥ | drutatvān mārutasya ceti śukraprerakasya vāyor abhidravaṇaśīlatvād ity arthaḥ | ete ca yady api hetavas tathā ’pi prādhānyāt prathamapratipāditāstrīpuruṣasamyogādirūpāhetūnām samaṣṭau naivāmī ganitāḥ | carat iti nanāmānuṣapaśvādijātiṣu bhramataḥ | viśvarūpasyeti ātmanaḥ | ... Carakasamhitā, 397.*

<sup>113</sup> Likewise, other things that we might think of as highly regulated or even taboo for certain classes of people, like meat, serve as medicines in Āyurveda. This observation could be a starting point for a more detailed study of the relationship between early Āyurveda and *dharmaśāstra* and *kāmaśāstra* texts.

<sup>114</sup> The suppression of these impulses can lead to disease.

<sup>115</sup> Brooks, “Karma as an ‘Apparatus’.”

ejaculate.<sup>116</sup> The passage describes a chain of events leading from the “abnormal” sexual behavior, or touch, of the parents, to a sexually malformed and impotent child who grows up reliant on aphrodisiacs for arousal. The operative mechanism is wind-vitiation damaging the reproductive tissue of the parents and their offspring.<sup>117</sup> Here we are alerted to one arena for the possible dangers of wind vitiation and touch—in stark contrast to the safety of sexual touch in the passage advertising for aphrodisiacs—specifically sexual touch, gone awry.

Formally, the locus or abode (*adhiṣṭhāna*) of the touch faculty is skin, *tvac*. The word *tvac* can refer to the outermost layer of a human, non-human animal, or to plant bark. Skin is both a barrier and a porous interface between a human being and the world. The skin is one of the soft constituents of the body, so in the *Carakasamhitā* it is described, along with the other soft constituents, as deriving from the contribution of the mother’s seed.<sup>118</sup> In the *Śārīrasthāna* chapter on the enumeration of body parts, skin is described first among all of the parts of the body. The *Carakasamhitā* explains that skin as made up of six layers (the *Suśrutasamhitā* enumerates seven layers), and they are named and described according to their qualities, functions, or as the types of pathologies that the physician might encounter in each layer.<sup>119</sup> As Ariel Glucklich explains of skin in the early Indic context, “The luminosity of the external skin layer is related to its reflectivity and translucence, which are indications not of transparency but of a unique power to mediate between the internal and external dimensions of the lived world.”<sup>120</sup> Skin is described as reflecting a person’s complexion, revealing the qualities of blood, and their vitality.

In Chapter Four of this dissertation, I will examine the use of tactile therapies, particularly oleation, in the maintenance of the skin and general health in the early classical treatises. When broken, skin bears wounds (*vraṇa*) that we will examine in more detail in later chapters, particularly Chapters Five and Six on Āyurvedic leech therapy. The importance of skin to this study will arise again in Chapter Five, a contemporary ethnography of Āyurvedic leech therapy at a clinic in Kerala. As we shall see, in that context, there is a moral valence associated with the skin, for when the skin is breached, as in the case of ulcerations, people often experience emotional duress and social stigma. In the opening of the next chapter, Chapter Two, it is precisely this detailed description of the enumerated layers of the of skin that animates Dr. Arun, a contemporary professor of anatomy at an Āyurvedic college in Kerala. Wondering how these layers were observed by early scholars, he explores ways of dissecting skin and reflects on the tactile epistemologies of the early surgical treatise, the *Suśrutasamhitā*. As we shall see in the next chapter, questions of tactile contact and the breaching of skin by the interior of the body also raise issues regarding the social status and bodily practice of different types of physicians in early India.

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<sup>116</sup> This is found in Cakrapānidatta’s gloss on *CS Śā* 2.19. See Brooks, “Karma as an Apparatus,” Part 2.

<sup>117</sup> Impotence is a serious issue in this context as one’s safe passage after death relies on ceremonies performed by offspring, traditionally, male offspring. See Doniger’s discussion of the *śrāddha* ritual in Doniger O’Flaherty, “Karma and Rebirth in the Vedas and Purāṇas,” 37.

<sup>118</sup> *CS Śā* 3.6.

<sup>119</sup> The seven layers of skin are described in *SS Śā* 4.4.

<sup>120</sup> Glucklich, *The Sense of Adharma*, 97.

## CHAPTER TWO

### A Surgeon's Foremost Tool is his Hand: Epistemologies, Diagnosis, and Sensory Mediation in the *Carakasamhitā* and *Suśrutasaṃhitā*

Three human hands touch. Two are of the same body. Unlike Merleau Ponty's two hands touching each other, emblematic of the "reversibility" of touch, these two hold the single hand of another.<sup>1</sup> The single hand is not the "all healing one" offered by the orator to the listener in Ṛg Veda 10.60.12.<sup>2</sup> Rather, detached from its body and drained of blood, its touch is insentient. But there is some sense to be made of the hand. These three hands have gathered to perform an experimental investigation.

Dr. Arun had sawed the single hand from the arm of a formalin-preserved cadaver in his anatomy lab at an Ayurveda medical college in Kerala.<sup>3</sup> He took the hand and soaked it in distilled water for one month to leach the preservative from its flesh. Then he submerged it for seven days in a tank of distilled water with an electric pump-powered current.<sup>4</sup> Now, standing for hours, holding the dead hand over the tank with his two living hands, he patiently "brushed" and "scrubbed" away layers of flesh. Dr. Arun had defined the terms "brushing" and "scrubbing" based on his perception of the pressure and speed exerted in the two processes—brushing entailing a lighter and slower movement. He paused periodically to observe and photograph the changing hand. Submerging the hand in water, he noted, magnified his view of its minute structures.

As a faculty member in the department of Rachana Shareera, a term likely translated from English to Sanskrit and English back again as "Anatomy," Dr. Arun is a teacher in a discipline central to Indian colonial medical education during the nineteenth century.<sup>5</sup> In our discussions, he often spoke about his struggles to incorporate Āyurvedic understandings of the body—which he associated with the varied body mappings found in the classical treatises—with

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<sup>1</sup> This reversibility blurs the "subject" and "object" in the touching encounter. Merleau-Ponty and Lefort, *The Visible and the Invisible*, 141.

<sup>2</sup> In Ṛg Veda Hymn 10.60.12, after restoring Subandhu's mind, the healing-hand is presented to the listener. Joel Brereton and Stephanie Jamison's translation reads, "Here is my hand that brings good fortune; here is my (other hand) bringing better fortune. Here is my all-healing one; here the one of propitious touch." Jamison and Brereton, *The Rigveda*, 3:1473.

<sup>3</sup> Dr. Arun is a pseudonym.

<sup>4</sup> This description of Dr. Arun's "hydro-dissection" is based on ongoing conversations that we had via phone during all phases of his experiment. The tank's volume was 3000 cubic centimeters and it contained 15 liters of water circulated by an electric pump at 500 liters per hour.

<sup>5</sup> Although the widely accepted story of Madhusudhan Gupta's dissection of a corpse at the Calcutta Medical College in 1836 suggests the introduction of dissection into general medical education in the nineteenth century, Projit Mukharji has shown that the "actual practice" of dissection did not figure centrally in the development of early modern Āyurveda or understandings of the human body among Āyurvedic practitioners in the nineteenth and early twentieth century. Rather, it was not practiced in institutionalized Āyurvedic education until the 1930s. Mukharji, *Doctoring Traditions*, 62.

The term "rachana" comes from the Sanskrit *racana* (from  $\sqrt{rac}$ ) translated by Monier Williams as "the act of making, forming, arranging, preparing, composing." Shareera, or *śarīra*, means body.

the official curriculum for anatomy.<sup>6</sup> The latter, he noted, was almost identical to that of the biomedical MBBS (Bachelor of Medicine, Bachelor of Surgery) anatomy curriculum.<sup>7</sup>

After earning his formal BAMS and MD (Ayurveda) and having studied for several years with a well-known *śalya* (Āyurvedic surgery) practitioner, Dr. Arun's earlier clinical practice had specialized in surgical procedures.<sup>8</sup> He treated anal fistulas using caustic alkali (*kṣārasūtra*) and leech therapy (*jalaukāvacāraṇa*) and practiced the bloodletting techniques of venesection (*sirāvyadhana*) and pricking (*pracchāna*). Considering himself an avid student of the *Suśrutasaṃhitā*, the more anatomically inclined of the early Āyurvedic treatises, he had an interest in what he termed “hydro-dissection,” a process of examining a corpse described in the treatise's *Śārīrasthāna* (“Section on the Body”) chapter 5. In addition to observing the bones and vessels of the body, Dr. Arun wondered: Is this erosive procedure how the authors of the *Suśrutasaṃhitā*, without the help of a microscope, had—for instance—discerned seven different layers of *tvac* (skin)?<sup>9</sup> How, indeed, did this method of observation inform the anatomical and surgical knowledge found in the treatise? In what way might “hydro-dissection” inflect his own pedagogical practice of conventional scalpel-dissection?

In *Suśrutasaṃhitā Śārīrasthāna* chapter 5, after enumerating the interior and exterior components of the body, a short passage describes a procedure for examining a corpse. The stated purpose is for a practitioner or student to directly observe the anatomy described in the chapter. Two verses explain the importance of using one's direct perception, or sensory observation (*pratyakṣa*), in addition to studying the treatise:

Therefore, the remover/surgeon (*hartṛ*) pursuing certain knowledge of surgery (*śalya*),

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<sup>6</sup> These multiple, overlapping, circulating, and contested body mappings that Dr. Arun materializes and enacts through practice resemble what Projit Mukharji calls “physiograms.” Mukharji explains: “Indic traditions of body knowledge had traditionally sustained a multiplicity of body metaphors and images. The plurality of body metaphors also led to many of them being only partially or inchoately worked out. They were more like transparencies laid on top of one another.” Mukharji, *Doctoring Traditions*, 8.

<sup>7</sup> However, according to Dr. Arun, there is a substantial difference in the pedagogical facilities available at the local government Ayurveda Medical College and the government Medical College. In contrast to the clean and well-ventilated dissection hall at the Medical College, his dissection hall was inadequately ventilated, resulting in a high level of formalin exposure during dissection. In his class, there is only one cadaver, sometimes cut into different pieces for pedagogical ease, for a class of approximately seventy students.

As the Āyurvedic teacher and researcher P. Ram Manohar notes, “The entire Āyurvedic curriculum is designed in a manner that mimics the MBBS course with a view to achieve equal status with modern medicine. Even the topics of study are terms translated from English to Sanskrit to create subjects that did not exist in Ayurveda. For example, anatomy is translated as *śārīraracanā* and Physiology as *śārīrakriyā*, whereas in Ayurveda these subjects form part of a systems approach to understanding the human being as an integration of body, mind and self.” Manohar, “Ayurvedic Education,” 1445. Also, see M. Bode and P. Shankar, “Ayurvedic College Education.”

<sup>8</sup> Harish Nariandas argues that the acronym BAMS itself exemplifies what he calls the uneven *creolization* of Āyurvedic medicine through relating the unitary category of “Ayurveda” unevenly with the biomedical category of “Medicine” and a generalized “Surgery.” Nariandas, “Nosopolitics: Epistemic Mangling and the Creolization of Contemporary Ayurveda,” 109.

<sup>9</sup> The seven layers of skin are described in *SS Śā* 4.4. For a discussion of how Ḍalhana navigates the difference in this enumeration of skin layers from that found in the *Carakasamhitā*, which describes only six layers, see Selby, “On Anatomical Enumeration and Difference.” For a detailed analysis of the seven layers and their qualities, see Glucklich, *The Sense of Adharma*, 97.

having cleaned a dead body, should properly examine the outlook of the body (presented above).

Indeed, that which is seen through direct perception (*pratyakṣataḥ*) and that which is seen in the teachings, they both, in combination, augment knowledge to a greater degree.<sup>10</sup>

This is followed by a prose description of the procedure:

Therefore, one should decompose a (dead) person (*puruṣa*)—possessing all limbs, not killed by poison, not afflicted by a lengthy sickness, not a hundred years of age—entrails and feces removed, bound, placed in a cage, in a flowing (*āvahantyām*, lit. conveying) river, body wrapped with *muñja*, *valkala*, *kuśa*, *śaṇa* etc., any of these, in a secluded location. After seven nights, having pulled out the appropriately decomposed body, scrubbing the skin etc. very gently with brushes of *uśīra*, *bāla*, *venu*, *balvaja*—any of these—indeed, one should observe by sight all the different major and minor parts of the body, exterior and interior, according to what has been stated above.<sup>11</sup>

Over the course of seven days, in an effort to investigate this process, Dr. Arun used a series of plastic, bamboo, and metal brushes, along with sandpaper, to erode, painstakingly, the tissue layers of the hand. The subtle structures of the hand's palmar anatomy are difficult for an anatomist to view via scalpel-dissection due to the thickness of the palmar aponeurosis (palmar fascia), so, with pedagogical ends in mind, Dr. Arun had decided to compare two methods: 1) conventional scalpel-dissection as instructed in the manual used in his classroom, *Cunningham's Manual of Practical Anatomy*, and 2) an approximation of the “hydro-dissection” method, found in *Suśrutasaṃhitā*.<sup>12</sup>

While we discussed on the phone how to write up the results of his experiment, he explained that through gradual “brushing” and “scrubbing” he was able to view layers of fascia in the hand that were not found in *Cunningham's*, along with fine structures (including small blood and lymphatic vessels) that were usually cut in the process of scalpel dissection.<sup>13</sup> He was

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<sup>10</sup> All translations by the author unless otherwise noted.

*tasmān niḥsaṃsayam jñānam hartrā śalyasya vāñchatā | śodhayivā mṛtam samyagdraṣṭavyo 'ṅgaviniścayah || (SS Śā 5.47)*

*pratyakṣato hi yad drṣṭam śāstradrṣṭam ca yad bhavet | samāsatas tad ubhayam bhūyo jñānavivardhanam || (SS Śā 5.48)*

<sup>11</sup> *tasmāt samastagātram aṣṭopahatam adīrghavyādhipīdītam avarṣaśatikam niḥsrṣṭāntrapurīṣam puruṣam āvahantyām āpagāyāṃ nibaddham pañjarastham muñjavalkalakuśaśaṇādīnām anyatamena āveṣṭitāṅgam aprakāśe deśe kothayet samyakprakuthitam coddhṛtya tato deham saptarātrād uśīrabālavenubalvajakūrcānām anyatamena śanaiḥ śanair avagharṣayaṃs tyagādīn sarvān eva bāhyābhyanārān āṅgapratyaṅgaviśeṣān yathoktān lakṣayec cakṣuṣā || (SS Śā 5.49)*

<sup>12</sup> He would present this research in 2018 at two conferences in the United States: the American Association of Anatomy Conference (in collaboration with his colleagues at the college) and the National Āyurvedic Medicine Association conference (in collaboration with me). So, while not physically present during the experiment, I was implicated in the endeavor.

<sup>13</sup> This is the standard anatomy textbook used in conjunction with dissection in the first year Rachana Shareera curriculum at the college and is one of the eighteen reference books listed for this discipline on the 2019 Central Council of Indian Medicine (CCIM) syllabus (<https://www.ccimindia.org/ayurvedasyllabus.php>), Accessed April 20, 2019.

also able to take advantage of the magnifying properties of water in his viewing. Then he shifted senses, “Touching the hand I could feel the *guṇas* (attributes) of different parts. The veins in the hand—I had to scrub so carefully, they are *rūkṣa* (dry) and can break. The nerves are *snigdha* (unctuous) and I could scrub harder and they won’t break.” By touching the one hand with his two hands, over time, with sensitivity and technique informed by his imaginary of Suśruta, Dr. Arun perceived and understood the hand differently. Through what we might call synesthetic slippage he could sense not only structures but also attributes (*guṇas*). These *guṇas* were simultaneously felt through his hands, seen in his mind, and perceived through a pre-existing textually derived map of attributes inflected through the modes of Āyurvedic education and practice in contemporary Kerala.<sup>14</sup> Here, I read Dr. Arun’s work as a sensory provocation to consider the distinct ways that general and surgical practitioners—represented in the *Carakasamhitā* and the *Suśrutasamhitā*, respectively—were instructed to use their bodies and senses in knowing and diagnosing in the early first millennium.

As Kuriyama reminds us in his elegant study of perception of the body in Chinese and Greek medicines, “There is a gap between touching and feeling. Perceptions aren’t raw experiences. What we perceive, when we touch something, depends largely on how we touch it. But how we handle an object depends, in turn, on how we conceive it.”<sup>15</sup> This interplay between perception and conception weaves a multi-temporal imaginary for contemporary Āyurvedic practitioners.<sup>16</sup> But more primary than this is the simple fact of whether we touch at all.

On one hand (no pun intended), we can understand Dr. Arun’s quest to generate a phenomenological epistemology of Suśruta through a trajectory linked to Āyurvedic revivalist movements at the turn of the last century. Here, we must bear in mind the specifics of the process that took place in Kerala, which K. N. Panikkar argues, through the example of Aṣṭavaidyān P. S. Variar, involved not only contestation of “colonial cultural authority,” but also a movement that prioritized Sanskrit and English knowledges among its practitioners and worked to “assert hegemony over popular cultural practices.”<sup>17</sup> We must also consider the “deep repugnance” that, David Arnold notes, “Indians of almost every caste and creed had for the Western practice of dissection” at the turn of the last century (the late 1800s) and the social division of labor that relegated Doms, “among the lowest of all castes,” to assisting in the conventional dissection process.<sup>18</sup> As a physician at the Vaidyaratnam Ayurveda Museum in Thrissur explained to me, it was precisely because of their practice of dissection that members of the Mooss family—as one of the *Aṣṭavaidyā* families of Kerala, renowned for their medical practice—had “*patita*,” (Skt. fallen) in status, and were no longer allowed to enter the inner sanctum of the temple.

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<sup>14</sup> The *guṇas* are central to Āyurvedic diagnosis and treatment in contemporary Kerala. See Cerulli, *Somatic Lessons*, 45; Brooks, “Epistemology and Embodiment.” Also see the Introduction of this dissertation.

<sup>15</sup> Kuriyama, *Expressiveness of the Body*, 63.

<sup>16</sup> The ways that this multi-temporal imaginary plays out in through what explore as the “vascularity” of of leech therapy is explored in Chapter Five of this dissertation. See also Brooks, “The Vascularity of Ayurvedic Leech Therapy.”

<sup>17</sup> Aṣṭavaidyān P. S. Variar was the founder of the Kottakal Arya Vaidyashalya and the Arya Vaidya Samajam, an organization that undertook the regulation of Āyurvedic education and practice in Kerala at the turn of the last century. See Panikkar, “Indigenous Medicine and Cultural Hegemony,” 308.

<sup>18</sup> He also notes, “Although valued and approved in early works of Hindu Ayurvedic medicine, dissection and the study of anatomy had not been part of Hindu (or indeed Muslim) medical practice in recent centuries.” Arnold, *Colonizing the Body*, 4–5.



But they are not allowed into *kṣētragṛhaṃ* (the inner sanctum of the temple). *Śrirakattū kaṭakanuḷḷa anuvaadamilla* (There is not permission to enter the inner sanctum). *Avarkkū orū bhrashtū vannituṅṅū* (They incurred a prohibition against entering). They are studying with the *śavacchēda* (dissection, lit. “cutting of a corpse”). Anatomy and physiology they are studying. Then they are touching the dead body.<sup>19</sup>

Narratively blurring the practice of dissection introduced into institutionalized medical education by the British with that of a deeper past, this mythic statement is echoed in Indudharan Menon’s interview with Aṣṭavaidyān Alattur Narayanan Nambi. Rather than emphasizing dissection, however, Nambi speaks of surgery in the “old days”:

In the past, there was a restriction about Ashtavaidyans doing activities in temples. This was because they used to perform surgery. They were kept at a lower position in the Nambuthiri hierarchy, for they had a certain moral “fall” (*patanam*) associated with them. This was the situation of Ashtavaidyans in the old days. Among the eight parts of Ayurvedic medicine, surgery involved the use of knives and other surgical instruments. The Nambuthiris did not consider this a respectable activity. Vaidyans had to touch blood and so on. So Nambuthiris didn’t allow Ashtavaidyans to perform rituals in temples. They were kept apart and if a Nambuthiri touched an Ashtavaidyān, the Nambuthiri had to perform a ritual that consists of a special kind of bath to remove pollution. This is so only because we do surgery.<sup>20</sup>

This trajectory of concerns with physicians’ purity and status threads into the complicated present where, under the current Bharatiya Janata Party, Hindutva movements extend transnationally with a vector in the ideological purification, commodification, and claiming of “Ayurveda” and “Yoga.”<sup>21</sup> As we will explore in the next chapter, physicians’ experience of practice and teaching is both what Lawrence Cohen famously called an “epistemological

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<sup>19</sup> Interview at Vaidyaratnam Museum: December 13, 2016. For a similar narrative see Yamashita and Manohar, “Memoirs of Vaidyas (4),” 38.

In his recent monograph on hereditary medical lineages in Kerala, Indudharan Menon notes that while there are numerous Aṣṭavaidyān origin stories, the following seems to be clear: “In short, all 18 Ashtavaidyān families were from central Kerala. Ashtavaidyans belonged to a Brahman subcaste, rather sub-class, called which is at the second rung from the *panthi*, bottom of the ten-runged hierarchical Nambuthiri social ladder. Members of the *panthi* subcaste belonged to the class of *otthillathavar*, a Malayalam term used by Nambuthiris for those who have no right to chant the Vedas and perform or participate in Vedic sacrifices.” Menon, *Hereditary Physicians of Kerala*, 157. In terms of historical development, he notes, “In short, the tradition of Ashtavaidyān physicians and their families is probably a relatively later development and had little to do with the 32 village complexes that functioned as a loose-knit Nambuthiri socio-political network until the beginning of the second millennium CE.” Menon, *Hereditary Physicians of Kerala*, 162.

<sup>20</sup> Menon, *Hereditary Physicians of Kerala*, 158.

<sup>21</sup> For example, see the following speech: Narendra Modi, 2016. “Text of PM’s speech at Vision Conclave at Global Ayurveda Festival.” [http://www.pmindia.gov.in/en/news\\_updates/text-of-pmsspeech-at-vision-conclave-at-global-ayurveda-festival-kozhikode/](http://www.pmindia.gov.in/en/news_updates/text-of-pmsspeech-at-vision-conclave-at-global-ayurveda-festival-kozhikode/) (last modified February 2, 2016). Also, see Introduction to this dissertation.

carnival” and what I understand as a *sensory negotiation* between “modern medicine” and “the science” (the terms Dr. Arun used to refer to biomedicine and Āyurveda, respectively).<sup>22</sup>

On the other hand, my main interest in this chapter is to examine touch, in concert with the other senses, in the epistemology and diagnostic techniques set forth in the early classical Āyurvedic treatises. Here, I show that reading with attention to sensory perception (*pratyakṣa*) and the attributes (*guṇas*), as suggested by the commentary offered to us by Dr. Arun’s study, illuminates the different ways that general and surgical practitioners were instructed to use their bodies and senses in diagnostic practice. This chapter focuses on representations of physicians and their senses, sensory limitations, and sensory mediation in epistemology and diagnosis. Chapter Four will extend my argument regarding fundamental differences in the tactile practice of surgical and general physicians into the realm of treatment and will open to a range of other medical actors. The inquiry in this chapter is extended to include the *Aṣṭāṅgahṛdaya*, the primary practitioner’s manual in contemporary Kerala, to enable consideration of changes in sensory norms across time into the later centuries of the first millennium. As discussed in the introduction—bearing in mind the complexities of dealing with the classical Āyurvedic treatises as *śāstra*—reading with attention to the sensory opens a space for new insights into early Āyurveda.<sup>23</sup>

I begin this chapter on touch in Āyurvedic epistemologies and diagnostics with contemporary and classical citations of “hydro-dissection” for two reasons. First, because representations of this practice suggest a method of gathering information and knowing about the human body particular to the surgical strand of Āyurveda in the early first millennium. Second, because this description of a process for systematically examining corpses is, I suggest, emblematic of a substantial distinction between bodily norms for physicians practicing surgical techniques—for example, as taught by the schools of Suśruta and Bhāluki (the latter only attested through citations)—and physicians practicing medicine without an emphasis on surgery, as we find reflected in the *Carakasamhitā*. Dr. Arun’s experience of hydro-dissection alerts us to the centrality of evaluation of the *guṇas*, an evaluation that fundamentally implicates a physician’s corporeal practice of medicine. This chapter demonstrates that surgeons are represented in early first-millennium treatises as possessing specialized medical knowledge, performing dangerous procedures, and having greater sensory and bodily intimacy in their engagement with patients than general physicians. Surgical tactility is represented in the *Suśrutasaṃhitā* as an interplay of sensory knowledge, technical skill, experience, and judgment, constituting the surgeon’s hand.

The first part of this chapter examines and expands upon prior scholarship on physicians’ status in early India as well as on the practice of surgery in early India. In the second part, I examine the relative importance of the *pramāṇas* of authoritative teaching (*āpta/āgama*) and sensory observation (*pratyakṣa*) in the *Carakasamhitā* and *Suśrutasaṃhitā*, discussing the implications of the emphasis on sensory perception in the surgical treatise, the *Suśrutasaṃhitā*. In order to consider a possibility of chronological shift in diagnostic norms, I open my analysis to Vāgbhaṭa’s seventh-century practitioner’s manual, the *Aṣṭāṅgahṛdaya*. In this section, I

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<sup>22</sup> Cohen, “The Epistemological Carnival”; Brooks, “Epistemology and Embodiment.” When practitioners referred to “the science” of Ayurveda, they were speaking of the intertwined textual bases and evolving practice of Ayurveda. For a historical treatment of this terminology, see Projit Mukharji’s discussion of the choice of nineteenth-century “Ayurvedists” to label Ayurveda as “science” rather than as “medicine.” Mukharji, *Doctoring Traditions*, 28–30.

<sup>23</sup> Pollock, “The Theory of Practice.”

closely read passages describing physicians' use of their senses in diagnosis to note the greater sensory intimacy on the part of surgeons, indicated in the *Suśrutasamhitā*. Part three explores sensory mediation in diagnosis, first, through a case study contrasting descriptions of blood in the treatises—again noting the greater sensory engagement with blood in the surgical treatise—and then considering both blood and urine. Finally, the conclusion of this section presents a case of sensory mediation by another human in the *Carakasamhitā Indriyasthāna*.

## Part One: Touching Hands

What is at stake in an analysis of medical touch in ancient India? In a recent article, Patrick Olivelle notes that attitudes towards the social status of physicians in ancient India were inconsistent.<sup>24</sup> On one hand, we find evidence ranging from Ashokan inscriptional rock-cut edicts and the classical first millennium medical treatises themselves, that physicians were “valued” members of society. On the other, the legal texts of the time, *Dharmasūtras* and *Dharmaśāstras*, include physicians in lists of individuals, such as pawnbroker and usurer, from whom one (presumably a Brahmin) should not accept food. In the latter case, physicians are rendered polluting through their association, and possible tactile contact, with pus and blood.<sup>25</sup> In the *Arthasāstra* we find physicians are members of the king's retinue (1.21.9), but also employed as spies and agents, and duly suspect based on their professional mobility and potential proximity to the king (1.16.24, 5.1.35, 5.3.67, 7.17.45).<sup>26</sup>

Early debates over the status of physicians in early India evinced wide-ranging views. For example, Jean Filliozat argued that physicians were stigmatized from early times onwards, citing the banning of the medical twin physician-deities, the Aśvins, from drinking the elixir of *soma* in the *Taittirīya Samhitā*. However, Debiprasad Chattopadhyaya's Marxist rebuttal asserted that only much later did the Brahminization of the fully “rational” system of Āyurveda result in the imposition of a lower status to physicians.<sup>27</sup> Zysk argues against Chattopadhyaya's conviction that physicians were “highly esteemed” in the early Vedic times due to the Aśvins' status in *R̥g Vedic* hymns, saying that the earlier scholar did not adequately take the *Atharvaveda* into account. He notes (like Chattopadhyaya) that subsequent works, including the late *Samhitās* and early *Brāhmaṇas* “indicate that physicians and medicine were denigrated by the priestly hierarchy, who rebuked the physicians for their impurity and their associations with all sorts of people.”<sup>28</sup> This is in accordance with his overall argument that Āyurveda, as a form of “empirico-rational” medicine, arose not from a brahmanic context as previously accepted, but instead at the margins of society in the interface between physicians and Buddhist ascetics, or

<sup>24</sup> Olivelle, “The Medical Profession in Ancient India.”

<sup>25</sup> For example, *Mānavadharmasāstra* 3.180–182. Olivelle, *Manu's Code of Law*, 117.

<sup>26</sup> See Olivelle, *King, Governance, and Law in Ancient India*.

<sup>27</sup> Filliozat, *The Classical Doctrine of Indian Medicine*; Debiprasad Chattopadhyaya, *Science and Society in Ancient India*.

<sup>28</sup> Zysk, *Asceticism and Healing in Ancient India*, 22. For example, he gives passage from *Taittirīya Samhitā* (6.4.9.1–3) in which the Aśvins were considered impure due to their physician status and not allowed to drink *soma*. Then the gods asked them to “cure the sacrificial victim by replacing its head” they negotiated the right to drink *soma* and then their healing powers were distributed between *agni*, the waters, and the brahmins. This passage also “established a rite of purification for physicians” in the form of the *Bahiṣpavamāna Stotra*. He also gives evidence of the idea of physicians as polluting as found in the found in the *Śatapatha Brāhmaṇa* and in the *Mānava Dharmaśāstra*.

*śramaṇas*.<sup>29</sup> Preisendanz's nuanced study of attitudes towards the body in strands of the Vedic corpus, early Buddhism, and the *Carakasamhitā* also suggest an increasing stigmatization of physicians with an attendant "Brahminization" of the early Āyurvedic treatises. However, for Preisendanz this entailed the adoption of affirmative attitudes about the body, she writes:

In the final analysis, this emphasis can also be seen as an apologetic manoeuvre, inasmuch as it amounts to an attempt at ideological justification of the medical profession and exculpation of its practitioners, and this to a Brahminization of the medical science, an attempt in which well-designed reference is made to some of the earliest concepts of the body and affirmative attitudes towards it in the Brahmanical tradition, supported by aspects of the positive attitude towards the body adopted from the Buddhist tradition.<sup>30</sup>

In any case, these debates hinge upon the problem of physicians' having close contact—and particularly tactile contact—with patients and the substances produced by their bodies.

Reinforcing the importance of considering physicians' practice in relation to concepts of purity and pollution in early India, Patrick Olivelle's study of the language of purity in *dharmaśāstra* suggests that purity is not a state, rather it is a process. He explains, "the vocabulary clearly indicates that the focus is not on any permanent, or even transitory, condition of purity but rather on the transition from impurity to purity or the recovery of lost purity," relating this to Mary Douglas's notion of the impure as "matter out of place."<sup>31</sup> Olivelle finds no absolute state of purity associated with a particular group of people, rather,

Concern for impurity translated into concern for maintaining the integrity of boundaries, both physical and classificatory, which in turn related to the concern for maintaining social boundaries. The human body becomes the locus for expressing all these concerns<sup>32</sup>

Chief sites for the "translation" of impurity would be in physicians' contact with bodily fluids "out of place," and also, contact with corpses, as in the case of hydro-dissection. I suggest here that physicians and surgeons coming into different levels of contact with the human body and its exudates, may have occupied distinct social and professional roles.

Much scholarship on early Āyurveda, while noting some substantive distinctions between the *Carakasamhitā* and the *Suśrutasamhitā*, for example the inclusion of blood as the fourth *doṣa* in passages of the latter, tends to emphasize similarities in their theoretical underpinnings. For example Jean Filliozat, writing of the treatises' relationship, states, "To put it differently, they probably constituted a unique tradition, but with two different series of proper names...." and he continues, "one can ask as to why, if the two traditions are in fact only one, they should present themselves under different form, but this is something quite natural in India."<sup>33</sup> Dominik Wujastyk explains, "Both the *Caraka Samhitā* and the *Suśruta Samhitā* emanate from a single tradition of medicine, that is, their general views and doctrines are in consonance, and the

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<sup>29</sup> For a full articulation of this position see Zysk, *Asceticism and Healing in Ancient India*. Earlier scholarship accepting the Brahmanical origins of Āyurveda includes Jean Filliozat, *The Classical Doctrine of Indian Medicine*, and Francis Zimmerman, *The Jungle and the Aroma of Meats*.

<sup>30</sup> Preisendanz, "Between Affirmation and Rejection," 134, 139–140.

<sup>31</sup> Olivelle, "Caste and Purity," 208–209.

<sup>32</sup> Olivelle. 211.

<sup>33</sup> Filliozat, *The Classical Doctrine of Indian Medicine*, 8.

theoretical basis of medicine presented in the texts is identical.”<sup>34</sup> Dagmar Wujastyk’s work shows that there was a unified system of medical ethics outlined in the texts of that period. However, importantly for our purposes, she also concludes that there was a social landscape of competing schools of physicians, based on narratives emphasizing the distinction between classes of physicians and between legitimate medical practitioners and quacks.<sup>35</sup>

My intent, here, is to tease apart the general and surgical strands of medicine through a sensory reading of representations of the embodied practice of diagnosis. In his comparative study on passages enumerating and describing the bones of the human body in the classical treatises, Volume 1 of *Studies in the Medicine of Ancient India*, Rudolf Hoernle emphasizes the practical differences between the treatises as distinct “systems” of medicine, writing of the supposed author of the earliest strata of the *Carakasamhitā*, “Ātreya was not so much a surgeon as a physician,” and “in contrast with Ātreya, the physician, Suśruta was a surgeon.”<sup>36</sup> Martha Selby suggests, that we consider the *Carakasamhitā* and the *Suśrutasamhitā* as “written representations not of two distinct ‘schools’ of medical thought, as Hoernle and others would have it, but in fact, of the articulation of two specialties: the “theorist-physicians” of the *Carakasamhitā* and the “anatomist-surgeons” of the *Suśrutasamhitā*.”<sup>37</sup> Selby’s work shifts our focus towards a more nuanced consideration of the imbrication of theoretical underpinnings and praxis.<sup>38</sup> This chapter argues that there were distinct strands of Āyurvedic practice, surgical and nonsurgical, entailing differences in physician’s domains of expertise, as well as in their bodily and sensorial practices.<sup>39</sup>

### ***Medical Professionalization in the Early First Millennium***

The composition of the early Āyurvedic treatises, the *Carakasamhitā* and *Suśrutasamhitā*, with their descriptions of the qualifications, training, and ethical standards for physicians, indicates that the early first millennium was a period of professionalization—and specialization—for physicians.<sup>40</sup> For example, in the *Suśrutasamhitā* we learn that one of the prerequisites for the physician embarking on the path of practice (*viśikhā* glossed as *karmamarga*) is having obtained the king’s permission (*rājānujñāta*) (*Sū* 10.1–3). There is ample evidence of the regulation of physician’s practice in the *Arthasāstra* (here using Patrick Olivelle’s translation) as well as some specific resonances with the medical practice described in the *Suśrutasamhitā*. In particular, the text states that physicians are among those professionals to be pacified with a gift when the king is settling an area (2.1.7), they receive remuneration for their work (3.13.30), they are under suspicion due to possible “secret income” (4.4.3), and they are pardoned of culpability if they report to authorities that they have been “made to treat a wound secretly” (2.36.10). In a section on “physical assault” (3.19.12) the penalty for drawing blood using a “stick, clod, stone, metal

<sup>34</sup> Wujastyk, “Medicine in India,” 22.

<sup>35</sup> Wujastyk, *Well-Mannered Medicine*.

<sup>36</sup> Hoernle, *Studies in the Medicine of Ancient India*, Vol. 1, 1.

<sup>37</sup> Selby, “On Anatomical Enumeration and Difference,” 307–308.

<sup>38</sup> For example, see Selby, “Narratives of Conception, Gestation, and Labour,” 256.

<sup>39</sup> In a discussion with Dagmar Wujastyk, she corroborated and expanded on this idea suggesting that in her study of Common Era alchemical texts, it is evident that there were a number of branches of specialized medical knowledge and practitioners in the first millennium, including (at least) physicians specializing in rejuvenation therapy (*rasāyana*), aphrodisiac therapy (*vājīkaraṇa*), poison-treatment (*viśacikitsā*), and surgery (*śalya*) (Dagmar, Wujastyk, personal conversation, February 19, 2019).

<sup>40</sup> See Wujastyk, *Well-Mannered Medicine* and Olivelle, “The Medical Profession in Ancient India.”

rod, or rope” is exempted in the case of drawing “infected blood,” *duṣṭaśonita*, a compound also commonly used in the *Suśrutasaṃhitā* (for example *Sū* 14.29). Olivelle notes that this may refer to a wound that is already open, or “it is also possible that this is reference to the medical practice of bleeding.”<sup>41</sup> I read the latter meaning because this passage is followed by another that also suggests medical practice, stating that there is a penalty “for opening up a wound, except in the case of infected wounds” (*duṣṭavraṇa*) (3.19.13).<sup>42</sup> The *Arthaśāstra* also instructs that “physicians carrying surgical instruments, medical devices, medicines, oils, and bandages” should be stationed at the rear of the army (10.3.47). The emphasis here is on physicians bearing implements and materials needed to treat battleground wounds, and featured are the chief tools of the surgeon described in dedicated chapters of the first book of the *Suśrutasaṃhitā*: *śastras* (*Sū* 7) “surgical instruments” or sharp instruments, *yantras* (*Sū* 8) “medical devices,” and bandaging a wound with inunctions and cloth (*Sū* 13).

This concurrence between the *Arthaśāstra* and the *Suśrutasaṃhitā* signals the more martial nature of the surgical treatise in comparison to the *Carakasamhitā*. As such, the surgical treatise contains a chapter “related to the one possessing a suitable/prepared army” (*yuktasenīya*) (*Sū* 34), which Ḍalhaṇa clarifies as the king (*rājan*)—often translated as the chapter on “military medicine” (*SS Sū* 34).<sup>43</sup> Writing of the description of the qualities of a good physician presented in this chapter, in comparison to the *Carakasamhitā*, Dagmar Wujastyk notes the emphasis on physical aptitudes, “particularly light-handedness, swiftness, and strength and their psychological counterparts, readiness of mind and resolve.”<sup>44</sup> She continues, “This probably reflects the specific medical context Suśruta envisages, that is, surgery (as opposed to general medical treatment), which would indeed require such qualities particularly in view of the unavailability (or lack of knowledge) of anaesthetics.”<sup>45</sup> The *Suśrutasaṃhitā* classifies eight types of surgery, “*śastrakarman*,” literally, “sharp instrument-procedure”: cutting (*cheda*), removing (*bheda*), scraping (*lekhya*), piercing (*vedhya*), probing (*eṣya*), extracting (*āhārya*), draining (*visrāvya*), and suturing (*sīvyā*) (*SS Sū* 5.5.). In order to perform these actions with sharp instruments, the qualities mentioned by Wujastyk, converging on manual dexterity and skill, would be essential. As the surgical treatise clearly states, a surgeon’s foremost tool (*yantra*) is his hand (“*hastam eva pradhānatamaṃ yantrāṇām*” *SS Sū* 7.3).

Wujastyk emphasizes that in the context of the chapter on military medicine, the physician’s role is to “protect the king.”<sup>46</sup> This is certainly attested in the first portion of the chapter (*SS Sū* 34.4, 7 c/d, 8 a/b). However, the *vaidya* is also described as available for the treatment of all who are in need within the king’s encampment (*skandhāvāra*): “Those tormented by poison, sharp objects, and disease, unerringly, approach him (the *vaidya*), who stands there exalted with splendor and eminence like a banner.”<sup>47</sup> This well-equipped (*sarvopakaraṇānvita*) *vaidya*, skilled in specialized knowledge of his own school of teaching (surgery) and not neglecting others (*svatantrakuśalo ’nyeṣu śāstrārtheṣv abahiṣkṛtaḥ*) (*SS Sū* 34.14 c/d), is prepared to treat anyone in the king’s encampment.

<sup>41</sup> Olivelle, *King, Governance, and Law in Ancient India*, 219 and 620 n3.19.12.

<sup>42</sup> Olivelle, 219.

<sup>43</sup> Dagmar Wujastyk, *Well-Mannered Medicine*, 32.

<sup>44</sup> Wujastyk, 32.

<sup>45</sup> Wujastyk, 32–33.

<sup>46</sup> Wujastyk, 32.

<sup>47</sup> *tatrastham enaṃ dhvajavadyaśaḥkhyātisamucchritam | upasarpanty amohena viśaśalyāmayārditāḥ ||* (*SS Sū* 34.13 c/d, 14 a/b)

In a recent study examining the social status of physicians in early India, Patrick Olivelle studies three terms used to refer to individuals in the medical profession in literatures ranging from the Ṛg Veda (circa 1500 BCE), through first millennium medical, erotic, and legal treatises: *bhiṣaj* (“physician”), *cikitsaka* (“medic”), and *vaidya* (“doctor”). The use of these three terms in a range of contexts raises the question of whether they refer to different types of physicians. The ancient word *bhiṣaj* can refer to a person who heals, a healer/physician/doctor, or to a substance that heals, a medicine/remedy.<sup>48</sup> Manfred Mayrhofer comments that the term, which is commonly found in the Ṛg Veda and in the early strata of Vedic Sanskrit, always means “doctor” rather than “medicine.”<sup>49</sup> The word *cikitsaka*, “healer,” derives from desiderative of the verbal root √*kit* (desire, live, heal, know).<sup>50</sup> The term *vaidya* as a noun, meaning, “physician,” “learned man,” or “man versed in the Vedas,” is derived from the verbal root √*vid* (know, understand), the same root that yields the terms *vidyā* and *veda*, or “knowledge.”<sup>51</sup> The mid-first millennium Sanskrit lexicon, *Amarakośa* lists *bhiṣaj* and *vaidya* as synonyms for *cikitsaka*: “*rogahārī* (remover of illness), *agadaṃkāra* (maker of good health), *bhiṣaj*, *vaidya*, are all synonymous with *cikitsaka*.”<sup>52</sup>

Olivelle suggests that the term *vaidya* gained traction over the (sometimes) more derogatory *cikitsaka* during the professionalization of medicine, at the time of the compilation of the *Carakasamhitā* and *Suśrutasamhitā* in the early first millennium. He shows that *cikitsaka* was the common term for a medical practitioner across the Dharmaśāstras and the *Arthaśāstra*, “whether it is the king’s personal physician, an itinerant healer, or a veterinarian.”<sup>53</sup> At the same time, he notes, the term *bhiṣaj* “enjoyed greater prestige ... even though the two continue to be used without much discrimination.”<sup>54</sup> The newer term *vaidya* seems to have become commonly used only in the early first millennium.<sup>55</sup>

In contrast, in the *Carakasamhitā* and *Suśrutasamhitā*, the term *cikitsaka* is only used a handful of times, usually as *metri causa*.<sup>56</sup> Olivelle reads the use of *bhiṣaj* in the medical treatises

<sup>48</sup> Monier-Williams, *A Sanskrit-English Dictionary*, 757; Apte, *Practical Sanskrit-English Dictionary*, 719.

<sup>49</sup> Mayrhofer, *Concise Etymological Sanskrit Dictionary*, 502. “...wenigstens in der alen Sprache, wohl nie ‚Heilmittel‘, sondern stets ‚Artz‘ ...”

<sup>50</sup> Monier-Williams, *A Sanskrit-English Dictionary*, 1022; Apte, *The Practical Sanskrit-English Dictionary*, 434.

<sup>51</sup> Monier-Williams, *A Sanskrit-English Dictionary*, 395; Apte, *The Practical Sanskrit-English Dictionary*, 890–891.

<sup>52</sup> *Amarakośa* 2.6.56. *rogahāry agadaṃ kāro bhiṣagvaidyau cikitsake |*

<sup>53</sup> Olivelle, “The Medical Profession in Ancient India,” 8.

<sup>54</sup> The term *cikitsaka* is used ten times in the Dharmaśāstras (“up to Yājñavalkya”) and *bhiṣaj* only four times (with two possible *metri causa*). In the *Arthaśāstra*, *cikitsaka* is used twenty-four times and *bhiṣaj* only three—twice in 1.21.9 where the physician mentioned is of elevated status and a physician for the king. Olivelle, “The Medical Profession in Ancient India,” 8–9.

<sup>55</sup> See Olivelle, “The Medical Profession in Ancient India,” 11, for the citations. In the *Mahābhārata* the breakdown of the three terms is approximately even. Olivelle notes its earliest attestations in the *Mahābhārata* and then in the *Kāmasūtra*, the latter being contemporaneous to the early Āyurvedic treatises.

<sup>56</sup> My own survey of the term in the *Suśrutasamhitā* showed that in the first three books of the treatise it only appears in the verse summaries often found at the end of chapters and demarcated by “*bhavati cātra*,” literally “and here it is,” with the meaning of “and here it is in verse” (*SS Sū* 1.35, *SS Sū* 4.7, *SS Sū* 10.6, *SS Sū* 26.17, *SS Ni* 15.12|, *SS Śā* 8.23). This is not so when it appears in verses *SS Ci* 2.64, *SS Ci*

as a “rehabilitation of the ancient term” and argues that “the adoption of the new term *vaidya*, with its resonance to the Veda and Vedic learning, was probably a new strategy to elevate the status of the medical professionals.”<sup>57</sup> He concludes that a semantic distinction between *bhiṣaj* and *vaidya* in the medical treatises is not easily discernible. Dagmar Wujastyk notes a passage where there does seem to be distinction made between the terms in the context of a discussion of the five types of physicians in the *Carakasamhitā*: “1. The good physician who deserves the title *vaidya*; 2. The ‘sponsored’ physician; 3. The ignorant physician; 4. The one who merely believes himself a physician; 5. The fraud/quack.” She points out that the word *bhiṣaj* is used to describe both the sponsored and ignorant physicians in distinction to the “good physician” who is a *vaidya*, supporting Olivelle’s argument regarding use of the term to establish an esteemed professional identity for physicians.<sup>58</sup>

Although Olivelle notes that there is no clear distinction in meaning between the two terms, based on his overall counts across the treatises I observe that there is a significant distinction between the frequency in the *Carakasamhitā* and the other treatises. He counts the use of the terms *bhiṣaj* and *vaidya* as follows: *Carakasamhitā* (*bhiṣaj* over 400, *vaidya* over 80), *Suśrutasamhitā* (*bhiṣaj* over 250, *vaidya* over 100), *Vāgbhāṭa* (*bhiṣaj* 78, *vaidya* 29). Looking closely at Olivelle’s numbers, we see that the percentage of times that *vaidya* is used in relation to *bhiṣaj* (disregarding the infrequent use of *cikitsaka* and considering the total of the two as 100 percent) varies significantly between the *Carakasamhitā* (20 percent), and the *Suśrutasamhitā* (40 percent) and *Vāgbhāṭa* (37 percent). As explained in the introduction, *Vāgbhāṭa*’s seventh-century CE works combine ideas from the two earlier treatises. The doubled usage of the term *vaidya* in the *Suśrutasamhitā* and *Vāgbhāṭa*’s work may indicate an increase in concern, over time, with establishing a new and distinct form of medical specialization. Or, given the complex chronological relationship between the *Carakasamhitā* and the *Suśrutasamhitā*, it may indicate a preference for the term and a greater concern with establishing a specialized professional identity among surgical specialists. Another non-exclusive possibility is that these differences reflect local variations in term preference or changes made by later redactors. It is worth noting that the *Carakasamhitā* and *Suśrutasamhitā* frequently modify the *bhiṣaj* or *vaidya* with an adjective denoting learned or wise man, for example, *buddhimat*, *dhīmat*, *visakṣaṇat*, *jānat* (in the instrumental), and the first three terms are also used, sometimes, as a noun to designate the physician as subject of the sentence.

Dominik Wujastyk notes the “poor state of the text” of numerous portions of the *Suśrutasamhitā*, with commentaries attesting many variant readings. Without a critical edition or text-critical manuscript study it is not possible to make any conclusive statements.<sup>59</sup> However, my preliminary survey of the frequency and context of the use of the terms *vaidya* and *bhiṣaj* in the *Suśrutasamhitā Sūtrasthāna* suggests a preference for the use of *vaidya* to refer to the surgical physician in the context of chapters that provide broad instruction on preparing for and practicing surgical medicine.<sup>60</sup> In my reading, this indicates that from the perspective of the

20.42, *SS Ci* 9.65, *SS Ci* 15.47, *SS Ka* 5.4.18, *SS Ut* 6.39.155, *SS Ut* 6.49.23.

<sup>57</sup> Olivelle, “The Medical Profession in Ancient India,” 11–12.

<sup>58</sup> Dagmar Wujastyk, *Well-Mannered Medicine*, 43.

<sup>59</sup> See Wujastyk, “New Manuscript Evidence,” 145.

<sup>60</sup> I used text file searches of the following versions of the treatises for the numerical portion of this survey: 1) Vaidya Jādavaji Trikamji Āchārya (ed.), *The Charakasamhitā of Agniveśa, Revised by Charaka and Driḍhabala with the Āyurveda-dīpikā Commentary of Chakrapāṇidatta*, 4th. ed. (Munshiram Manoharlal: New Delhi, 1981; originally published 1941). 2) Vaidya Jādavaji Trikamji



*Suśrutasaṃhitā*, specialization in surgical practice was a critical component of the professionalization of medicine. The term *vaidya* is used approximately 40 times and *bhiṣaj* approximately 57 in the *Suśrutasaṃhitā Sūtrasthāna*. So, *vaidya* is used in this book of the treatise 70 percent as often as *bhiṣaj*, well over the usual 40 percent attestation in the rest of the treatise. Out of the 46 chapters of the *Sūtrasthāna*, we find the following: 17 chapters with only *bhiṣaj*, 5 chapters using the terms once each, 3 chapters that use *bhiṣaj* more frequently, 5 chapters using *vaidya* more frequently, 1 chapter using only the term *vaidya* in a single occurrence. Here I will briefly discuss the last two categories.

What is interesting for our purposes and in terms of Olivelle’s argument is that four of the five chapters in which *vaidya* appears more frequently comprise the bulk of the chapters giving basic guidelines specific to surgical physicians (rather than generalists). This would support the possibility that establishing prestige and a sense of specialization through the term was important for practitioners of surgery. The chapter that uses only the term *vaidya* once is *Sū* 8, which lists the sharp instruments (*śastras*) specific to surgery. The prior chapter, *Sū* 7, describing general instruments (*yantras*) only uses the term *bhiṣaj* one time. It is not clear whether these two uses have meaning, but the use of *vaidya* to name the physician in the chapter on surgical instruments does seem consistent with the four chapters giving basic guidelines specific to surgical physicians. The five chapters using *vaidya* more frequently are as follows: 1) *Sū* 5 describing the surgical physician’s preparations for surgery (3 *vaidya*, 1 *bhiṣaj*); 2) *Sū* 10 on the physician’s path of practice (mentioned above) (2 *vaidya*, 1 *bhiṣaj*); 3) *Sū* 25 8 types of operations (3 *vaidya*, 2 *bhiṣaj*); 4) *Sū* 29, describing omens related to messengers and dreams (15 *vaidya*, 1 *bhiṣaj*); and 5) *Sū* 34 on royal (or “military”) medicine (8 *vaidya*, 4 *bhiṣaj*). Of these five examples, *Sū* 29, describing omens related to messengers and dreams, is the only one not giving guidelines specific to surgical physicians.<sup>61</sup> *Sūtrasthāna* chapter 5, describing the surgical physician’s preparations for surgery, consistently uses the term *vaidya* to refer to the physician except when mentioning that as preparation for surgery the *vaidya* is to worship Brahmins and physicians (*vipra* and *bhiṣaj*) (*Sū* 5.7). Given that the *Suśrutasaṃhitā* both emphasizes and extols the virtues of surgical medicine, this use of the term *vaidya* to describe the physician practicing surgery in the chapter resonates with Olivelle’s argument.<sup>62</sup> It also makes sense that the ancient term *bhiṣaj* (used, for example, to describe the Aśvins in the dual “*bhiṣajau*” in Ṛg Veda 1.116.16) is employed in the context of worship. Out of the four examples, this is the only one that I read as suggestive of a semantic distinction between the two terms. In the other examples, of note is simply the high-frequency correlation of the use of the term *vaidya* in contexts specific to the surgical physician.<sup>63</sup>

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Āchārya (ed.), “*The Suśrutasaṃhitā of Suśruta, with the Nibandhsaṅgraha Commentary of Śrī Dalhaṇācārya*,” 2nd ed. (Bombay: Pāndurang Jāmaṇī, 1931). (*Sūtrasthāna* and *Śārīrasthāna*). 3) Vaidya Jādavji Trikamji Āchārya and Nārāyaṇ Rām Āchārya (eds.), *Suśrutasaṃhitā of Suśruta with the Nibandhasaṅgraha Commemetary of Śrī Dalhaṇācārya and the Nyāyacandrikā Pañjikā of Śrī Gayadāsācārya on Nidānasthāna, edited from the beginning to the 9th Adhyāya of Cikitsāsthāna by Vaidya Jādavji Trikamji Āchārya and the rest by Nārāyaṇ Rām Āchārya “Kāvyaṭīrtha”* (Varanasi/Delhi: Chaukhamba Orientalia, 1992). (*Nidānasthāna*, *Cikitsāsthāna*, *Kalpasthāna*, and *Uttaratantra*).

<sup>61</sup> This chapter bears broad resemblances to chapters of the *Carakasamhitā Indriyasthāna*, “section on signs of impending death” (the *Suśrutasaṃhitā* contains no comparable section (*sthāna*)) and it attests 15 usages of *vaidya* and one attestation of *bhiṣaj*, found in the final verse. Although this may be of interest for future text critical studies, I will not address it in the present context.

<sup>62</sup> Olivelle, “The Medical Profession in Ancient India.”

<sup>63</sup> *Sūtrasthāna* chapter 10, on the physician’s path of practice, discusses the requisite training, equipment,

## *Surgery in the Early First Millennium*

Surgical instruments in the Taxila museum provide material testament to the practice of surgery in the northwestern frontier of South Asia during the early first millennium.<sup>64</sup> Taxila, the capital of the Gandharan region, was a renowned center for learning and, in particular, for medical education. The area also saw an efflorescence of Buddhism and Buddhist scholarship during the reign of the Kuṣāṇa kings in the first centuries of the Common Era.<sup>65</sup> Nasim Naqvi identifies surgical instruments, excavated at two Gandharan sites (one in Taxila and one approximately ten kilometers northeast of the city) by comparing them with contemporaneous Greek and Roman implements. As noted in the introduction, it is possible that the compilation of the teachings of Ātreya were undertaken by a physician named Caraka in Kaniṣka's Kuṣāṇa court in Sirsukh (Taxila area), in the 2nd century CE. The *Carakasamhitā* does mention surgical instruments and practices, although more detailed elaboration of *śāstras* and *yantras* is found in the *Suśrutasaṃhitā*. Naqvi argues based on the metalwork and composition that although there are similarities with surgical instruments made in the Mediterranean, these are distinct and were designed and used locally.<sup>66</sup> No surgical instruments have been identified elsewhere on the mainland Indian subcontinent to this date that I am aware of. However, it is worth bearing in mind that some of the surgical procedures could be performed with nonspecific knives and needles.<sup>67</sup>

Numerous surgical practices are attested in the Buddhist Pāli Vinaya literature and in the stories of the legendary physician Jīvaka from the early centuries before the Common Era, during the formative period of Āyurveda.<sup>68</sup> Both Zysk and Meena Talim closely analyze surgical procedures said to have been practiced by the physician Jīvaka, including a form of trepanation for a head disorder (*sīsābādha*) of “two living creatures” residing in the head of a merchant, treatment for anal fistula (Pāli, *bhagandala*), bowel swelling (*antagaṇṭhābādha*), and Talim also examines other instances of surgical procedures in the Vinaya.<sup>69</sup> Concluding his discussion of the

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characteristics, and permission to be obtained before beginning to practice, and then gives a detailed description of the manner in which a physician (*vaidya*) should examine a patient. This passage states that the sixfold method of examination listed in the *Suśrutasaṃhitā* is different from the threefold examination prescribed elsewhere. (I offer a close reading of this passage in Section Two of this chapter, on the uses of the senses in diagnosis.) The single use of *bhiṣaj* is in a closing verse. *Sūtrasthāna* chapter 25, describing the eight types of surgery, seems to indiscriminately shift between using the terms *vaidya* and *bhiṣaj* in its description of potentially inept and dangerous practitioners. *Sūtrasthāna* chapter 34 on royal or “military” medicine, discussed above, uses a mix of the terms *vaidya* and *bhiṣaj* with no clear distinction, but with the unusual inverse proportion of eight uses of *vaidya* and four uses of *bhiṣaj*.

<sup>64</sup> Naqvi, “Surgical Instruments in the Taxila Museum”; Naqvi, *A Study of Buddhist Medicine and Surgery in Gandhara*.

<sup>65</sup> Zysk, *Asceticism and Healing in Ancient India*, 47.

<sup>66</sup> Naqvi, *A Study of Buddhist Medicine*, 136.

<sup>67</sup> The Colombo Museum in Sri Lanka holds surgical instruments dating from the eighth century found at the Buddhist monastery complex at Mihinthale, Sri Lanka. Personal correspondence with Osmund Bopearachchi, November 13, 2019.

<sup>68</sup> The Buddhist Pāli Canon is divided into three parts, or *piṭakas* (lit. baskets): 1) *Sutta Piṭaka* containing five *nikāya* (collections), *Dīghanikāya*, *Majjhimanikāya*, *Samyutanikāya*, *Anguttaranikāya* and *Khuddanikāya*; 2) *Vinaya Piṭaka* which deals largely with regulations for monks and nuns and includes the *Māhavagga*; 3) *Abhidamma Piṭaka*.

<sup>69</sup> Zysk, *Asceticism and Healing in Ancient India*, 120–123; Talim, *Science of Medicine and Surgery in*

Vinaya prohibitions against surgical intervention in the case of anal fistula, Zysk writes, “A distinction between the traditional schools of surgery and of internal medicine is noted in the Pāli sources.”<sup>70</sup> The prohibition describes the case of the physician Ākāśagotta who used a knife (Pāli, *satthakamma*) to lance a fistula. The Buddha “objected to such a method of treatment, saying that the skin is too tender at the private parts, the wound too hard to heal, and the knife difficult to guide.” When the monks suggested another common form of treatment that we also find in the Āyurvedic treatises, namely enemas, the Buddha also prohibited that. Zysk notes that these prohibited treatments are those recommended by the *Suśrutasamhitā*, “suggesting that the physician Ākāśagotta may well have been a follower of the tradition of Suśruta or Dhanvantari.”<sup>71</sup>

In Buddhist works of the first millennium, the Buddha is often compared to an experienced surgeon who deftly removes the thorn of desire as the root cause of suffering from his disciples. For example, in Aśvaghōṣa’s *Saundarananda*, we find Nanda speaking to Buddha, thus (in E. H. Johnson’s translation), “The very sharp splinter of false views, Lord, which was lodged in my heart and caused me previous pain, has been pulled out by the jaws of the forceps of thy voice as a splinter is pulled out by a surgeon.”<sup>72</sup> Here the action of a surgeon, *śalyahṛt*, which can also translate literally as remover of arrows/sharp objects, is the object of comparison for the Buddha.<sup>73</sup> In Āryaśūra’s *Jātakamālā* story thirty-four, in the Buddha’s incarnation as a hummingbird, the Buddha removes a piece of bone from the throat of a lion. In this case, the comparison is less favorable to the physician, “No wound-healer, however skilled in his art and clever, would have succeeded even with great effort in extracting that extraneous substance, yet he pulled it out, thanks to his keen intellect, though not exercised by professional training, but proper to him through hundreds of existences.”<sup>74</sup> Again the term *śalyahṛt* is used to refer to what Speyer translates as the “wound-healer.”

A story canonized in the Pāli Majjhima Nikāya, the “Cūḷa Māluṅkyovāda Sutta,” also uses the metaphor of a surgeon to explain why the Buddha will not answer a series of existential questions posed by the monk Māluṅkyovāda. In this sutta, the Buddha answers Māluṅkyovāda’s insistence on knowing, for example, whether the body and soul are the same thing, or whether the cosmos is finite, with the example of a man who has been shot by an arrow. When the wounded man’s friends quickly obtain a skilled physician to remove the arrow, does the man then require knowing every minute detail about the arrow before allowing the surgeon to remove it? No, because he would die in the meantime. The same, the Buddha explains, holds true for esoteric knowledge that the Buddha does not regard as essential on the path to the cessation of

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*Buddhist India*, 82–94. Talim interprets the *Suttavibhaṅga*, *Mahāvagga*, and *Cullavagga* as containing eleven different types of surgical procedures.

<sup>70</sup> Zysk, *Asceticism and Healing in Ancient India*, 116.

<sup>71</sup> Zysk, 115.

<sup>72</sup> Aśvaghōṣa, *Saundarananda*, 110.

*yo dṛṣṭiśalyo hṛdayāvagādhah prabho bhṛṣaṃ māmatudat sutīkṣṇah |  
tvad vākyasaṃdamśamukhena me sa samuddhṛtaḥ śalyahṛteva śalyaḥ ||* (Saund 18.7)

<sup>73</sup> P. V. Sharma’s work shows that Aśvaghōṣa’s work contains numerous references from the *Carakasamhitā*. See Sharma, *Caraka-Cintana* (Hindi).

<sup>74</sup> Āryaśūra, *The Jātakamālā [or] Garland of Birthstories*, 331.  
*sudṛṣṭakarmā nipuṇo 'pi śalyahṛn na tat prayatnād api śalyam uddharet |  
yad ujjahārān abhiyogasiddhayā sa medhayā janmaśatānubaddhayā ||* (Jm 34.6)

suffering.<sup>75</sup> In this story the Pāli term for surgeon implies a medical specialization, as “*bhiṣakka sallakatta*,” can be translated as a “physician who is an exciser of sharp objects.”<sup>76</sup>

P. V. Sharma’s study of Sanskrit citations mentioning surgery, emphasizing the Gupta and post-Gupta period, provides further contextual evidence for surgical practice in the period during and directly after the compilation of these treatises.<sup>77</sup> Sharma includes the *Arthaśāstra*, although according to Olivelle, the work likely dates from between the mid-first century BCE and mid first century E. As we have seen, it contains suggestion of the practices of bloodletting and the opening of infected wounds (*duṣṭa vṛāṇa*) that resonate with these emphases in the *Suśrutasaṃhitā*.<sup>78</sup> Dominik Wujastyk states of Sharma’s examples, “But the stereotypical nature of most of these references, and the paucity of real detail, suggests that the practice of surgery was rare in this period.”<sup>79</sup> Based upon the lack of mention of surgical medicine in the broader realm of first-millennium Sanskrit literature, and the lack of surgical texts in subsequent centuries, he argues,

It is certain that elaborate surgical techniques were practiced in Suśruta’s circle. But there is little evidence to suggest that these practices persisted beyond the time of the composition of the text. Some of the techniques may have survived as caste skills, isolated from the mainstream of Ayurvedic practice. For example, a description of the couching operation for cataract survived in the ninth-century *Kalyāṇakāraka* by Ugrāditya, and texts based on the *Suśruta Saṃhitā* copy out the sections on surgery along with other material. But there is no evidence from other historical sources that the sophisticated surgery described by Suśruta was actually practiced by *vaidyas*.<sup>80</sup>

Leech therapy is another example of a practice described in the *Kalyāṇakāraka* based on the *Suśrutasaṃhitā*.<sup>81</sup> Wujastyk’s ambivalence about the practice of surgery in the early first millennium—that it was practiced, but perhaps not often—is warranted. However, if we consider practice of the rudiments of surgery, for example the treatment of wounds or ulcers (*vṛāṇas*) emphasized as the first book of the *Suśrutasaṃhitā Cikitsāsthāna*, and also in Sharma’s numerous examples, then an argument for the practice of surgery in this period may be more compelling.<sup>82</sup> In particular, is worth noting that in the Āyurvedic corpus during this period, many of the surgical practices described in the *Suśrutasaṃhitā* find detail and elaboration in the treatises of Vāgbhaṭa, which date to the seventh century CE.

To return for a moment to the “hydro-dissection” passage translated above, Fišer and Fišerová enter into the lively debate about this passage and argue that this form of studying the body was actually practiced, qualifying, however, that “only an experiment could corroborate this statement.”<sup>83</sup> Dr. Arun’s study was performed with many limitations, and a contemporary

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<sup>75</sup> Ñāṇamoli, *The Middle Length Discourses of the Buddha*, 533–536.

<sup>76</sup> This term is cognate to Sanskrit “*bhiṣaj śalyakṛtta*.” See footnote 116, below.

<sup>77</sup> Sharma, *Indian Medicine in the Classical Age*, 74–78.

<sup>78</sup> Sharma, 75.

<sup>79</sup> Wujastyk, *Roots of Ayurveda*, 107.

<sup>80</sup> Wujastyk, “Medicine in India,” 24.

<sup>81</sup> See Chapter Six of this dissertation for a full translation of *Suśrutasaṃhitā Sūtrasthāna* chapter 13 on leech therapy.

<sup>82</sup> Sharma, *Indian Medicine in the Classical Age*, 74–75.

<sup>83</sup> Fišerová and Fišer, “Dissection in Ancient India,” 326.

experiment cannot conclusively verify practices of the distant past. However, his study provides us with a possible sensory apparatus for analyzing this unique way of observing and perceiving the body, particularly his observations regarding magnification, the ability of view full contiguous fine tissue layers, and the experience of touching and sensing the attributes of the tissues (*guṇas*)—the latter, a perceptual evaluation central to Āyurvedic understandings of the body, diagnosis, and treatment. Of course, there is a substantial difference between a physician interacting with a living human of any social status, and a dead human. However, we do know that in order to examine the corpse, not only vision but also touch must be employed. Based on the distant comparison of corpse examination in medieval Europe, I. Fišerová and O. Fišer speculate that this type of examination might have been performed by *caṇḍālas* and other individuals “on the lowest steps of the social ladder, who not only could, but were sometimes obliged to handle the corpses” (as we saw in Arnold’s work on colonial India).<sup>84</sup>

Zysk contextualizes this passage through spatially and socially locating the procedure in-line with his overall argument that Āyurveda emerged in the margins of interaction between wandering physicians and Buddhist mendicants.<sup>85</sup> He goes on to speculate that the “principle and practice of the human body derived, like other aspects of the medical arts, from the heterodox *śramanas*.”<sup>86</sup> The detailed anatomical knowledge found in both the early Buddhist Pāli canon and early Āyurvedic texts is central to his argument, as he explains, “The approach of the early Buddhists and the physicians to an understanding of the human body reflects both a commitment to materialism though empiricism and a firm rejection of brāhmaṇic orthodoxy.”<sup>87</sup> He cites the contemplation of the body from the *Sutta Piṭaka* (though much of his other evidence comes from the *Vinaya Piṭaka*), the first of the “four intents of contemplation” (*cattāro satipaṭṭhāna*) found in the *Mahāsatipaṭṭhānasuttana* of the *Dīghanikāya*, as containing detailed knowledge of the human body that “implies firsthand observation of the body” that may have come from the prescribed practices of observing cattle butchery and decomposing corpses.<sup>88</sup> Considering the corpse examination in the *Suśrutasamhitā*, he notes that the practice of observing “decomposing corpses deposited in rivers,” although not attested in the Pāli canon, was recorded by Chinese Buddhist pilgrim Hsuan-Tsang in the early seventh century CE.<sup>89</sup> In Zysk’s reading, all of these practices would have been considered defiling and impure and been “shunned by the orthodox Hindus.”<sup>90</sup>

Taking issue this interpretation, which paints the scene of the corpse study as heterodox, Martha Selby writes,

There in fact does not seem to be any horror surrounding the presence of this particular corpse in the text. Given the description, accompanied by Ḍalhaṇa’s pragmatic annotations, what we have is certainly not an orthodox “distance” between corpse and

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<sup>84</sup> Fišerová and Fišer, 325.

<sup>85</sup> Zysk, *Asceticism and Healing*, 36.

<sup>86</sup> Zysk, 37.

<sup>87</sup> Zysk, 7.

<sup>88</sup> Zysk, 34–35.

<sup>89</sup> Zysk, 36.

<sup>90</sup> Zysk, 37. Throughout this book Zysk, like Zimmerman, uses the term Hindu to refer to Brahmanism at this early period.

observer, but rather, an intimacy born out of the need to know, and more explicitly, out of the need to count.<sup>91</sup>

While it seems that Zysk and Selby’s arguments may actually not be in contradiction, that is not my central interest here. Rather, I suggest that the “intimacy” suggested in this passage between the scrubber(s) and the corpse, a body whose parts and structures are revealed in subtle layers, is also driven by the contingent necessity of practitioners routinely interacting with the interior of human bodies, surgeons trying to stop what should be inside from coming out, or removing that which is in excess, or intruding, from inside the body. In this chapter, I understand the differences between the *Carakasamhitā* and *Suśrutasamhitā* not only as a difference in content but in fundamental orientation and professional specialization, and attendant to this, in the embodied practice of diagnosis. These distinctions will become even clearer through the evidence presented in Chapter Four, on treatment.

### ***The Dangers of Cutting—Surgical Specialization Represented in the Carakasamhitā and Bhelasamhitā***

Now we turn to a discussion of references to surgical specialists in the general medical treatises of the *Carakasamhitā* and *Bhelasamhitā*. By analyzing passages that mention experienced surgeons, we can draw several conclusions. First, they demonstrate that from the perspective of general medical treatises, specific surgical practices, in particular, those considered especially dangerous, were ideally performed by surgical specialists. Attendant to this, they suggest that there is a recognition of both the dangers to the patient, and attendant liabilities to the physician, of practicing certain surgical interventions. Finally, we might understand the qualified mention of specific procedures in the general treatises as, simultaneously, a caution to their physician audience and also an endeavor towards authorial comprehensiveness. These passages can be read as articulations of “medical ethics” in the classical treatises, as studied in detail by Dagmar Wujastyk.<sup>92</sup> Because the Āyurvedic treatises fall within the normative genre of *śāstra*, they represent an ethical and practical ideal. Wujastyk suggests, “Therefore while the actual ethical guidelines may not have applied to a physician’s actual practice of medicine, they would still have had a vital function for medical practice in establishing the status of medicine and of physicians in society.”<sup>93</sup> Likewise, the descriptions and delimitations of practice in the passages below serve to establish the ideal delimitations of general and surgical practice from the point of general medical treatises.

As Meulenbeld explains in his discussion of the relative chronology of the *Carakasamhitā* and *Suśrutasamhitā*:

The *Carakasamhitā* does not only mention a medical authority called Dhanvantari, but also *dhānvantarīyāḥ*, i.e., those belonging to the school of Dhanvantari.... These passages point to the abilities of surgical specialists in general, without implying an acquaintance with the *Suśrutasamhitā*, which is proved by the fact that Suśruta disagrees with Caraka and rejects the occurrence of ripening (*pāka*) in the case of gulma. Cakrapāṇidatta

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<sup>91</sup> Selby, “On Anatomical Enumeration and Difference,” 313.

<sup>92</sup> Wujastyk, *Well-Mannered Medicine*.

<sup>93</sup> Wujastyk, 6.

appears to agree that Caraka had a particular school of surgeons, accepting a *Dhanvantaritantra* as their textbook, in mind, or surgeons in general.<sup>94</sup>

Whether or not these passages are in reference to the *Suśrutasamhitā*, they show the existence of surgical specialists at the time of the early compilation of the *Carakasamhitā*. They also reveal that there are procedures which the generalist would regard as the provenance of surgeons. The commentaries of Cakrapānidatta and Ḍalhaṇa give numerous citations from the surgical treatises of Bhāluki and Bhoja in their discussion of the descriptions of surgical instruments in *Sūtrasthāna* chapter 7 and *Sūtrasthāna* chapter 8, indicating the existence of multiple schools of surgery around the turn of the first millennium. Meulenbeld understands these treatises to be predecessors to the later preserved surgical work, stating, “The *Suśrutasamhitā* is undeniably the work of an author who put to use and drew on a number of sources at his disposal.... These quotations give evidence of a much more detailed knowledge on the subject in the treatises of these predecessors.”<sup>95</sup>

The *Carakasamhitā* mentions physicians who specialize in surgical procedures and in several passages refers to procedures that are to be performed by experienced surgeons. In two of these passages the compound “*śalyaharṭṛ*” is used to mean “surgeon.” The term *śalya* can mean a sharp object, such as an arrow or thorn, or something painful arisen in the body (like a urinary stone). It is also used to refer to the discipline of surgery.<sup>96</sup> In the main text of Trikamjī Ācārya’s edition of the *Suśrutasamhitā*, the corpse study is described as undertaken by the “*harṭṛ*” a term which, according to Monier-Williams, can mean “a bearer,” “a robber,” “one who severs or cuts off” (only in *-tā* as fut. “he will cut off”), “one who imposes taxes,” and “a remover.”<sup>97</sup> Here, I understand the term as a shortening of *śalyaharṭṛ* meaning “remover of foreign substances [from the body].” Neither of these terms are used elsewhere, in the version of the treatise edited by Jādavjī Trikamjī Ācārya, to describe a surgeon. Monier-Williams gives the term *śalyaharṭṛ* as “‘remover of thorns,’ a weeder,” and as equivalent to *śalyahṛt* “‘extractor of splinters,’ a surgeon.”<sup>98</sup> Kenneth Zysk translates *harṭṛ* as “the bearer of the knife [i.e., the surgeon]” and Fišerova and Fišer as “anyone who strives.”<sup>99</sup> Ḍalhaṇa does not provide a gloss on the term, however, Hoernle cites a variant reading attested in two manuscripts he examines, and also given in a note by Trikamjī: *jñānam icchatā śalyajīvinā* “by the one subsisting on surgery (*śalya*), desiring knowledge.”<sup>100</sup> This provides an indication that Ḍalhaṇa understood subsisting on *śalya*, surgery, as a distinct livelihood. The term “*śalyaharṭṛ*” is also found, along with “*cikitsaka*,” in the *Vasiṣṭha Dharmasūtra*, in a list of those from whom alms-food is not to be accepted (*VaDh* 14.2). Olivelle translates the terms as “surgeon,” noting that in an enumeration of the eight

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<sup>94</sup> Meulenbeld, *HIML*, 1A:351. Dominik Wujastyk’s study of the recently discovered ninth-century fragmentary manuscript of the treatise (Kaiser Shamsher NAK 9/699) complicates the relationship of Dhanvantari to the early *Suśrutasamhitā*. Wujastyk, “New Manuscript Evidence.”

The term *gulma* was explained to me as a phantom tumor.

<sup>95</sup> Meulenbeld, *HIML*, 1A:346.

<sup>96</sup> Monier-Williams, *A Sanskrit-English Dictionary*, 1059; Apte, *The Practical Sanskrit-English Dictionary*, 911.

<sup>97</sup> Monier-Williams, *A Sanskrit-English Dictionary*, 1289.

<sup>98</sup> Monier-Williams, 1059.

<sup>99</sup> Fišerova and Fišer, “Dissection in Ancient India,” 312.

<sup>100</sup> Hoernle, *Studies in the Medicine of Ancient India*, Vol. 1, 226.

branches of Āyurveda found in *Carakasamhitā Sū* 30.28, the surgical branch of medicine is called, “*śalyāpaharṭka* (surgery to remove foreign objects from the body).”<sup>101</sup>

The first passage from the *Carakasamhitā* indicating that specific procedures are to be performed by an experienced surgeon is *Śārīrasthāna* 8.31, describing treatment for a woman whose fetus has died in utero. In the context of this intimate and hazardous procedure, we find the following statement:

Of that fetus stuck in the womb (*garbhaśalya*), some say the pacifying action causing the placenta to be expelled (should be performed), some (say) mantras, etc., determined by the Atharvaveda (should be performed), some (say) the removing (*haraṇa*) by a surgeon (*śalyaharṭr*) having much practical experience (should be performed).<sup>102</sup>

The remainder of the passage describes the non-invasive treatments to be given once the fetus has been removed, featuring a variety of preparations: first drying and purifying alcoholic liquids, then nourishing porridge, and eventually providing internal treatments with fats and oils.

The surgical treatise, *Suśrutasamhitā Cikitsāsthāna* chapter 15, describes in great detail the procedure for delivery of an incorrectly positioned fetus (*mūḍhagarbha*). The chapter opens by explaining that these are the most difficult and dangerous kind of extractions and “therefore only having asked the ruler should one take recourse to the instrument with great care.”<sup>103</sup> The *Suśrutasamhitā* makes clear the need for an authority’s permission before the undertaking of all surgical practices, so this additional mention of obtaining permission indicates an awareness of the hazard and potential liabilities of such practice. In the *Suśrutasamhitā*, the passage elaborates the steps the surgeon must follow if the fetus is dead. The surgical physician is to insert their hand into the patient to determine the position of the fetus and based upon this assessment, is to press and pull in prescribed ways in order to reposition and to remove the fetus (*SS Ci* 15.9–11). If this is not successful, then the passage instructs the surgeon to use instruments to cut up and remove the dead fetus (*SS Ci* 15.12–19). Specifying both manual and instrument-mediated surgical tactility and expertise, the passage reveals the danger, intimacy, and multi-layered perceptual and skill-based elements of surgical tactility that we will see evidenced in Chapter Four, in greater detail, in our case study of urinary stones (*aśmarī*). Eschewing such practices for general physicians, the *Carakasamhitā* delegates this practice to an experienced surgeon.<sup>104</sup>

Another appearance of surgeons and their perceived expertise is found in a description of the removal of boils or pustules in the case of *prameha*. *Prameha* refers to a variety of urinary

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<sup>101</sup> Olivelle, “The Medical Profession in Ancient India,” 3.

<sup>102</sup> *tasya garbhaśalyasya jarāyuprapātanam karma samśamanam ity āhur eke mantrādikam atharvavedavihitam ity eke paridrṣṭakarmanā śalyaharṭrā haraṇam ity eke* || (CS Śā 8.31)

Meulenbeld 1999, 1A:520. Here I follow Meulenbeld’s translation of the term *garbhaśalya*.

Monier-Williams translates *paridrṣṭakarman* as one “having much practical experience,” in reference to the context of the *Carakasamhitā*. The compound can literally translate to one having actions that have been observed, i.e., one whose practice is attested. Monier-Williams, *A Sanskrit-English Dictionary*, 596.

<sup>103</sup> *tasmād adhipatim āprechya param ca yantram āsthayopakramet* | (*SS Ci* 15.3)

<sup>104</sup> Meulenbeld notes that some scholars see the passage as an addition to the *Carakasamhitā* made by Dṛḍhabala. Meulenbeld, *HIML*, 1A:132.

A similar passage is found in the *Aṣṭāṅgasamgraha* also using the term *śalyaharṭr*:  
*mūḍhagarbhasya tu jarāyupātanasāmānyam karmety eke | mantrādikarmātharvavedavihitam ity eke | drṣṭakarmanā śalyaharṭrā śalyāharaṇam ity eke* || (*AS Śārīrasthāna* 4.34)



disorders including forms of diabetes. Although not explicitly stated, operating on a patient suffering from *prameha* would have been dangerous, as in the case of diabetes (understood as a form of *prameha*), where wounds can heal with difficulty or become chronic. The bulk of the chapter's text outlines treatment for *prameha* based on internal and external medications. At the end of the chapter, *Cikitsāsthāna* 6.58 explains:

Which seven (types of) pustules of *prameha* are explained separately by me in the chapter on diseases, those physicians with skillful knowledge of surgery, [should treat] with a sharp instrument and with purification and healing.<sup>105</sup>

The exclusion of this procedure from general practice may, again, be linked to its danger for the patient and risk on the part of the physician. Operating on a patient suffering from *prameha* would have been dangerous, because when there is sugar in the blood wounds can easily become chronic. However, the eleventh-century commentator Cakrapāṇidatta explains that the reason for this exclusion is one of specialization: “It is not expanded upon here because of being within the topic of surgery, according to the statement ‘in the domain of other topics it is not explained extensively.’”<sup>106</sup> Here, Cakrapāṇidatta is citing another *Carakasamhitā* passage, *Cikitsāsthāna* 26.131, addressing eye diseases, a category of ailments falling under the branch of *śālākya*, treatment of ailments in the neck and head. This cited passage further reinforces the notions of a demarcation between general medical practice and specialized practices. In reference to the ninety-six types of eye diseases mentioned in the prior verses, the treatise states, “Their indicated distinctions are within the teachings on *śālākya*, and treatment within another domain, so elaboration is not approved, because of that, here we don’t bother.”<sup>107</sup> This statement is found in one of the chapters of the *Carakasamhitā Cikitsāsthāna* attributed to the redactor Dṛḍhabala in the fourth or fifth century CE, indicating a persistence of these types of specialized practices into the mid-first millennium.<sup>108</sup>

The final example from the *Carakasamhitā Cikitsāsthāna* chapter 13, likely added by Dṛḍhabala, echoes a surgical passage found in the *Suśrutasamhitā* (Ci 14.17) (and in the *Bhelasamhitā*, see below) addressing the treatment of abdominal diseases (*udararoga*). The lengthy chapter details varieties of abdominal diseases along with their etiologies and treatments,

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<sup>105</sup> *pramehiṇām yāḥ piḍakā mayoktā rogādhikāre pṛthag eva sapta | tāḥ śalyavidhibhiḥ kuśalaiś cikitsyāḥ śastreṇa samśodhanaropaṇaiś ca || (CS Ci 6.58)*

<sup>106</sup> *atra śalyādhikāratvena ‘anyādhikāreṣu na vistaroktiḥ’ iti vacanān na vistaraḥ kṛtaḥ |*

<sup>107</sup> *teṣām abhivyaktir abhipradiṣṭā śālākyatantreṣu cikitsitaṃ ca | parādhikāre tu na vistaroktiḥ śasteti tenātra na naḥ prayāsaḥ || (CS Ci 26.131)*

<sup>108</sup> According to Meulenbeld, there is widespread agreement that the last five chapters of the *Cikitsāsthāna* (25–30) were written by Dṛḍhabala, and that the first eight are attributed to Caraka. He notes, based on colophons and commentarial attributions, that the following chapters may have been written by Dṛḍhabala in the fourth or fifth century CE: 9 to 12, 13, 15, 16, 17, 18, 20, and 22, and either the 23rd or the 25th chapter of the *Carakasamhitā*. The colophon of the 25th chapter states that it is attributed to Dṛḍhabala, whereas commentators Jajjāta and Cakrapāṇidatta both assign him authorship of the 23rd chapter. Meulenbeld, *HIML*, 1A:131. However, in his study of the treatise, Philip Maas provides evidence for at least one substantial revision of the *Carakasamhitā* after Dṛḍhabala and concludes that owing to the existence of two different chapter orderings of the *Cikitsāsthāna*, neither the original order nor Dṛḍhabala’s contributions can be conclusively determined. Maas, “On What Became of the *Carakasamhitā* after Dṛḍhabala’s Revision.” For now, I am leaving these questions aside in my analysis of passages from the *Carakasamhitā Cikitsāsthāna*.

including internal and external preparations, and in the cases of diseases of “enlarged liver” (*yakṛdudara*) and “enlarged spleen” (*plīhodara*), bloodletting and other elimination therapies. At the end of the chapter, prior to a closing statement on the virtues of milk-consumption for all types of *udararoga*, we find three specific—and potentially dangerous—therapeutic interventions: 1) the administration of snake venom; 2) a surgical procedure involving opening the abdomen and suturing a ruptured intestine with biting-ant jaws; and 3) surgical draining of a fluid-filled abdomen. Both the administration of venom and the surgical procedures are given with strong qualifications and implicate the work of specialists. In the case of snake venom administration, the physician must obtain permission from the patient’s kinsfolk along with friends, wife, Brahmins, rulers, and teachers, and explain that the patient will die without the venom treatment. Snake venom is to be used only as a last resort when all three *doṣas* are vitiated, and other treatments have failed.<sup>109</sup> The second and third procedures enumerated above are prefaced with a qualification that they are to be performed by an experienced surgeon. Since the *Suśrutasamhitā* includes obtaining the ruler’s permission as a prerequisite for surgery, this may also be implied here. The introduction to the passage describing the surgical procedure using ants to close an intestinal perforation, also using the term *śalyahartṛ*, reads as follows:

However, this practice should be (performed) among surgeons of attested practice having measured four fingers below the navel,<sup>110</sup> a respected physician should cut open the left stomach with a commensurate “sharp instrument.”<sup>111</sup>

The passage proceeds to describe the physician repairing the intestinal hole and then closing up the patient’s abdomen, a dangerous and difficult procedure.

These passages, along with passages on the treatment for piles and urinary stones that we will examine in Chapter Four, position the *Carakasamhitā* as a general medical treatise that recognizes surgical expertise, and the need for experienced and specialized practitioners to perform dangerous surgical procedures. Some of their practices are included and mentioned, but not elaborated upon within the treatise. The examples provided above would have been particularly dangerous for any physician to perform, let alone someone without specialized surgical training.

The *Bhelasamhitā*, a general medical treatise, offers further evidence regarding the practice of early first millennium surgical specialists. Meulenbeld suggests that the treatise assumed its current form around the seventh century CE, but there are citations from the treatise attested earlier in the Common Era.<sup>112</sup> According to my preliminary count, the frequency of use of the terms studied by Olivelle is as follows: the term *bhiṣaj* appears 112 times, *vaidya* 24 times,

<sup>109</sup> For a discussion and analysis of this treatment using poison, see Wujastyk, *Well-Mannered Medicine*, 115.

<sup>110</sup> The gerund *māpayitvā* is in the causative form and literally translates as ‘having caused to measure.’ This may indicate that the physician is causing the patient to take the measurement with their own hand because an *aṅgula* should be measured according to the patient’s own body.

<sup>111</sup> *idaṃ tu śalyahartṛṅnām karma syād dṛṣṭakarmanām* || (CS Ci 13.184 c/d)  
*vāmam kuṣim māpayitvā nābhyadhaścaturaṅgulam* |  
*mātrāyuktena śastreṇa pāṭayen matimān bhiṣak* || (CS Ci 13.185)

<sup>112</sup> Meulenbeld, *HIML*, 2A:23. Since this text is only attested by one manuscript the term *śalyakarṭṛ* could potentially be a scribal error for the term *śalyahartṛ*.

and *cikitsaka* 24 times.<sup>113</sup> The preserved portions of this treatise use the same ratio of *vaidya* to *bhiṣaj* (20 percent) as is found in the *Carakasamhitā*, but *cikitsaka* is used just as frequently as *vaidya*. Perhaps this also points to an earlier origin for much of the treatise. But most important for our purposes, in the *Bhelasamhitā Cikitsāsthāna* we find use of the term *śalyakarṭṛ* and *śalyakṛt* to refer to experienced surgeons, in descriptions of procedures that only they should practice. The terms *śalyakarṭṛ* and *śalyakṛt* are derived from the verbal root *kṛ* meaning “to do, make, perform.” Monier-Williams gives *śalyakarṭṛ* as a term meaning “an arrow maker” but indicates that it is also equivalent to the next dictionary term, *śalyakarṭṭṛ*, which he states is attested in the *Mahābhārata*, with the meaning of “‘cutter or remover of splinters,’ surgeon.”<sup>114</sup> Derived from the verbal root *kṛt* “to cut,” we find the term spelled *śalyakarṭṛ* in the BORI Critical Edition of the *Mahābhārata*, included among a list of types of people who are not honored guests worthy of the customary foot bathing.<sup>115</sup> As in the *Carakasamhitā* passages, these examples illustrate a clear sense of the importance of surgical expertise in the performance of specific procedures, and also a sense of deference and caution on the part of the authors of the *Bhelasamhitā*.

The first passage (BS Ci 13.25–6) describes opening of the abdomen in order to suture a ruptured intestine, as in the final example from the *Carakasamhitā*. Here I provide a translation of the procedure itself:

Having split open the stomach by measuring, and having assessed the hole in the intestine, then, one should apply the bite of a black ant on the hole in the intestine. Then, when the intestinal hole is held together, the physician should suture the stomach. Only the expert in surgery should perform the stomach opening.<sup>116</sup>

The next two verses (BS Ci 13.37–38), for the treatment of bowel obstruction and abdominal swelling, further specify that the physician who practices these procedures be proficient in surgery.

Likewise, one knowing the teachings on surgery should also open a bowel obstruction. In this way, having extracted the bound up *muñja* and hairs, then the physician should suture. Indeed, when without action (*akriyāvātām*) all the bowels are watery, in that case, one knowing the practice of a surgeon should do the piercing.<sup>117</sup>

<sup>113</sup> For the Sanskrit, I refer to the following version of the treatise: Krishnamurthy, K. H. Krishnamurthy, *Bhelasamhitā. Sanskrit Text with English Translation, Commentary and Critical Notes* by K. H. Krishnamurthy, Haridāsa Āyurveda Sīrīja, ed. Priyavat Sharma, No. 8 (Vārāṇasī: Chaukhambha Visvabharati, 2000).

<sup>114</sup> Monier-Williams 2008, 1059.

<sup>115</sup> MBh 5.38.4. BORI Critical Edition, Accessed Online (in this version the spelling is *śalyakarṭṛ*). The doubling of a consonant (other than h) after r following a vowel is found in Pāṇini's *Aṣṭādhyāyī* 8.4.46.

Olivelle identifies a similar term, “*śalyakṛnta*,” in the *Āpastamba Dharmasūtra*. Again, it is found in a set of passages listing people from whom one should not take food (along with “*cikitsaka*,” and in an earlier passage, “*bhiṣaj*”). See Olivelle, “The Medical Profession in Ancient India,” 2.

<sup>116</sup> *kukṣiṃ vipāṭya mānena chidram antrasya vīksya ca | tataḥ pipīlikādaṃśaṃ chidre tv antrasya dāpayet || (BS Ci 13.35)*

*antracchidre saṃgrhīte sīvyet kukṣiṃ tato bhiṣak | evaṃ chidrodaraṃ vaidyaḥ śalyakartur upācaret || (BS Ci 13.36)*

<sup>117</sup> *tathā baddhagudaṃ caiva pāṭayec chalyasāstravit |*

Another example of this professional specification is found in the description of treatments for piles (*arśas*). After explaining the importance of treating piles, the treatise states that cutting or removing must be performed by a surgeon whose is *dr̥ṣṭakarman*. This term can be translated adjectivally as “whose action been observed/attested,” or “who has observed the action.” I read the former meaning as it suggests that the physician has practical experience performing the dangerous procedure. Since most of the piles treatments offered in the chapter involve less invasive measures, the treatise gives the sense that all physicians are to treat the disease, however, only those with experience are to undertake the invasive surgical measures (BS Ci BS Ci 16.62 c/d – 16.64 a/b).

Among all of the types of disease piles (*arśas*) is the most notorious. Therefore, a physician should treat piles extensively. Cutting them with a sharp instrument (*śastra*), in like manner, cauterizing with caustic alkali—a surgeon (*śalyakartr*) whose actions are attested (*dr̥ṣṭakarman*) should undertake the treatment.<sup>118</sup>

In fact, this term *dr̥ṣṭakarman* is found once in the *Suśrutasamhitā*, in the context of a chapter on *śālyāntara*, medicine addressing the neck and head. Recall that this is the area of specialization that the *Carakasamhitā*’s redactor Dṛḍhabala mentions, in a passage above, as an area of specialization not to be elaborated upon. The passage where we find this term in the *Suśrutasamhitā* is at the end of a chapter on “mouth-diseases” (*mukharoga*) describing the removal of a swollen uvula (*galaśuṇḍika*), a procedure which must be undertaken with absolute precision (*Suśrutasamhitā Cikitsasthāna* 22.51–52).

Because of removing too much, blood would flow, and that cause could bring about death. Because of deficient cutting, salivation, drooling, sleep, dizziness, and (perception of) darkness. Therefore, the skilled physician having attested experience, with effort, having cut the swollen uvula, should do this, appropriately, in order.<sup>119</sup>

The *Suśrutasamhitā* clearly instructs at the outset, that surgical physicians must be trained with a combination of textual study and practical experience (*Suśrutasamhitā Sū* 4.8). This is implicit throughout the treatise, so why is the need for a physician to have attested experience restated

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*muñjān vālāṃs tathoddhṛtya baddhaṃ sīvyet tato bhiṣak* || (BS Ci 13.37)

*dakavanti hi sarvāṇi jaṭharāṇy akriyāvātām* |

*vyadhanam teṣu kurvīta śalyakartuḥ prayogavit* || (BS Ci 13.38)

The syntax of “*vaidyaḥ śalyakartur*” in BS Ci 13.36 is awkward, and although it literally renders as “surgeon’s physician,” I translate it as expert in surgery.

<sup>118</sup> *rogānīkasya sarvasya paramarśaḥ sukīrtitam* || (BS Ci 16.62 c/d)

*tasmād arśo vistareṇa cikitsat tu cikitsakah*

*śastreṇa chedanam teṣāṃ kṣāreṇa dahanam tathā* || (BS Ci 16.63)

*śalyakartā prayuñjīta dr̥ṣṭakarmā cikitsitam* | (BS Ci 16.64 a/b)

In verse 16.63 the printed text offers *cikitsikah* which may be a misprint, as the e-text reads *cikitsakah*.

<sup>119</sup> *atyādānāt sraved raktam tan nimittam mriyeta ca* |

*hīnacchedād bhaved chopho lālā nidrā bhramastamaḥ* || (SS Ci 22.51)

*tasmād vaidyāḥ prayatnena dr̥ṣṭakarmā viśāradah* |

*galaśuṇḍīṃ tu samchidya kuryāt prāptam imaṃ kramam* || (SS Ci 22.52)

here? As we have seen in the examples from the other treatises, the surgical treatise contains descriptions of numerous dangerous procedures. It is plausible that from the perspective of the *Suśrutasaṃhitā* this procedure represents an area of further specialization for the surgeon whose experience is attested (*dr̥ṣṭakarman*).

The final example from the *Bhelasaṃhitā* is found later in the *Cikitsāsthāna* in a section detailing the treatment of wounds, *vraṇas*. The *Suśrutasaṃhitā Cikitsāsthāna* begins with a chapter on the treatment of *vraṇas* and this is well regarded as a surgical specialty. In *Bhelasaṃhitā Cikitsāsthāna* 27.14–16, the treatment is demarcated as surgical, but the authors also state that general physician can also practice these procedures. Since most *vraṇas* would entail only superficial forms of surgical intervention, the treatments here differ from the prior examples which could pose a mortal risk to the patient.

Further, a surgeon (*śalyakṛt*) should perform the remaining procedures in a wound: cutting, removing, scraping, suturing and also pricking and ripening, and which is similar to these, and whatever other should be there. There are twenty “wound-faults,” a sixfold examination, and treatments are limited to thirty-six, in cases being cause for surgery, and a general practitioner (*kāyacikitsaka*) might perform these actions as examples.<sup>120</sup>

In this case, the reference seems to refer to the procedures used to treat a wound as described in the *Suśrutasaṃhitā* and indicates that even a general physician may perform these more minor surgical interventions.

## Part Two: Knowing and Sensing

Now we turn to a comparative discussion of the means of valid knowledge (*pramāṇas*) and the use of the senses in diagnosis in the *Carakasamhitā*, *Suśrutasaṃhitā*, and *Aṣṭāṅgahr̥daya*. In these treatises, diagnosis is a process intertwined with treatment and oriented toward assessment of constellations of multiple attributes, or *guṇas*, represented through humors, *doṣas*, which cause disease when in a state of imbalance. The three *doṣas*, *vāta*, *pitta*, and *kapha* or *śleṣman*, often translated as “wind,” “bile,” and “phlegm” respectively, are an important element in the conceptual basis for Ayurvedic diagnostics and therapeutics.<sup>121</sup> In a state of equilibrium they are

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<sup>120</sup> *śalyakṛc cāpi kurvīta vraṇe śeṣān upakramān |*  
*chedyaṃ bhedyam ca lekhyam ca sīvyam pracchanam eva ca || (BS Ci 27.14)*

*pācanam yac ca tais tulyam bhaved anyac ca kiṃcana |*  
*dvādaśa vraṇadoṣāś ca parīkṣā caiva ṣaḍvidhā || (BS Ci 27.15)*

*upakramāś ca ṣaṭtriṃśanniyatāḥ śalyahetuke |*  
*uddeśataḥ kriyāś caitāḥ kuryāt kāyacikitsakaḥ || (BS Ci 27.16)*

The spelling of *pracchana* should be *pracchāna*, and this treatment for wounds is discussed in detail in Chapters Five and Six.

Note that the *Suśrutasaṃhitā* prescribes a sixfold examination using the five sense and questioning in contrast to the other treatises, this will be discussed in detail in the next section of the chapter.

<sup>121</sup> Here, I retain the Sanskrit terms for the *doṣas*, *vāta/vāyu*, *pitta*, and *śleṣman/kapha* because translating them simply as wind, bile, and phlegm obscures the layered histories of these terms and the complex concepts that these terms designate. For example, in the *Aṣṭāṅgasamgraha*, the *doṣas* are described through their elemental composition. *Aṣṭāṅgasamgraha Sūtrasthāna* 20.2 explains that *vāyu* comprises

understood to be physiological constituents, whereas in a state of imbalance they are considered as pathological agents.<sup>122</sup> In the classical treatises the *doṣas* are described based upon their *guṇas*, and the two main physicians I worked with in Kerala both emphasized that the central operating principle in Ayurvedic diagnosis is the *guṇas*.<sup>123</sup>

The *guṇas* relevant in our consideration of diagnosis are attributes of the first two items included in a broader list of *guṇas* in *Carakasamhitā, Sūtrasthāna* 1.49: “[Along] with the [five] sense objects—‘heavy,’ etc., *buddhi*, those ending with *prayatna*, ‘para,’ etc.—are *guṇas*” (*sārthā gurvādayo buddhiḥ prayatnāntāḥ parādayaḥ guṇāḥ proktāḥ*). As Surendranath Dasgupta notes, this list does not provide an enumeration or precise specification of its contents, but seems to be referring to extant lists of *guṇas* known by the treatise’s author.<sup>124</sup> Cakrapānidatta glosses the list as including five sense objects; twenty attributes pertaining to the five elements—heavy, etc.; *buddhi*; a list of attributes of Self (*ātman*) ending with effort (*prayatna*) (attributed to *Carakasamhitā Śārīrasthāna* 3.10); and a list beginning with *para*, etc. (correlating to a set of attributes essential to treatment in *Carakasamhitā Sūtrasthāna* 26.31–35). It is the five sense objects (sound/*śabda*, touch/*sparsa*, form/*rūpa*, flavor/*rasa*, smell/*gandha*) along with the twenty physical attributes pertaining to the five elements that concern us here, and I refer to this subset as the *guṇas*.

The set of twenty physical *guṇas* are explained in the *Aṣṭāṅgahṛdaya Sūtrasthāna* 1.18 as ten *guṇas* with their opposites, with the complete list of ten pairs constellating to manifest in the *doṣas*, as illustrated in Figures 2 and 3. Across Āyurvedic treatises there is variance in the terms used to name the attributes (*guṇas*), the order given, and the way that they comprise the *doṣas*. For example, *Carakasamhitā, Sūtrasthāna* 25.36 names *sāra* rather than *cala* and orders the pairs differently.

heavy ( <i>guru</i> )	light ( <i>laghu</i> )
dull ( <i>manda</i> )	sharp ( <i>tīkṣṇa</i> )
cold ( <i>hima</i> )	hot ( <i>uṣṇa</i> )
unctuous ( <i>snigdha</i> )	dry ( <i>rūkṣa</i> )
smooth ( <i>ślakṣṇa</i> )	rough ( <i>khara</i> )
dense ( <i>sāndra</i> )	fluid ( <i>drava</i> )
soft ( <i>mṛdu</i> )	hard ( <i>kaṭhina</i> )
stable ( <i>sthira</i> )	mobile ( <i>cala</i> )
subtle ( <i>sūkṣma</i> )	gross ( <i>sthūla</i> )
clear ( <i>viśada</i> )	slimy ( <i>picchila</i> )

Figure 2: The twenty attributes (*guṇas*) listed in *Aṣṭāṅgahṛdaya Sūtrasthāna* 1.18 organized as pairs of opposites.

wind (*vāyu*) and space (*ākāśa*), *pitta* is related to fire (*āgneya*), and *śleṣman* comprises water (*ambhas*) and earth (*prthivī*).

<sup>122</sup> For a discussion of the early historical development of these concepts in relation to the *doṣas*, see Scharfe, “The Doctrine of the Three Humors” and Köehle, “A Confluence of Humors.”

<sup>123</sup> For descriptions of the *doṣas* based on the twenty *guṇas*, see *Carakasamhitā, Sūtrasthāna* 1.59–61 and *Aṣṭāṅgahṛdaya Sūtrasthāna* 1.11–12. *Suśrutasaṃhitā Sūtrasthāna* 6–13 explains the properties of the *doṣas* in a section of the chapter on the treatment of wounds describing the abodes of the *doṣas*. This latter passage, however, is starkly different from the passages in *Carakasamhitā* and *Aṣṭāṅgahṛdaya*, as blood (*rakta*) is included as a *doṣa* and the description of *vāta* does not contain a list of its *guṇas*.

<sup>124</sup> Dasgupta, *A History of Indian Philosophy*, 1:281.

<i>Doṣa</i>	elements ( <i>pañcamahābhūtas</i> )	attributes ( <i>guṇas</i> )
<i>vāta</i> ( <i>anila</i> )	air ( <i>vāyu</i> ) + space ( <i>ākāśa</i> )	<i>rūkṣa, laghu, śīta, khara, sūkṣma, cala</i>
<i>pitta</i>	fire ( <i>agni</i> )	<i>sneha, tīkṣṇa, uṣṇa, laghu, visra (pungent smell), sara, drava</i>
<i>kapha</i>	earth ( <i>pṛthivī</i> ) + water ( <i>ambhas</i> )	<i>snigdha, śīta, guru, manda, ślakṣṇa, mṛtsna, sthira</i>

Figure 3: The *doṣas* in terms of the five elements (*pañcamahābhūtas*) from *Aṣṭāṅgasamgraha Sūtrasthāna* 20.2 and attributes (*guṇas*) from *Aṣṭāṅgahrdaya Sūtrasthāna* 1.11–12.

Looking closely at the list of physical attributes, I suggest that we again can find the primacy of touch and tactile perception reflected by the fact that, arguably, all of these *guṇas* are perceptible by touch. The same cannot be said for any other sense. While the heavy/light and dull/sharp pairs would only be tactilely perceptible to the patient and available through observation of response or questioning, the other attributes are observable through the physician’s sense of touch. Some of the qualities would be observable through vision and even fewer by the other senses.

Diagnosis based on the *guṇas* provides more nuance than simply assessing the *doṣas*, because while each *doṣa* is represented as comprising a specific set of *guṇas*, the latter may occur in different proportions or levels in specific situations. The two physicians I worked most closely with in Kerala described the common process of diagnosis as using an assessment of *doṣas*, tissues (*dhatu*), and waste products (*malas*) as primary diagnostic tools, but they also characterized *guṇas* as the most accurate means of diagnosis. *Guṇa*-based diagnosis works through identification of the *guṇas* causing illness and then providing counteracting and balancing attributes in the form of medicine and lifestyle prescriptions. Though in many cases diseases are given names, ascertaining the name of the illness is not the core aim of diagnosis. *Carakasamhitā Cikitsāsthāna* 30.292 states that whether or not a disease is named in the treatise it can be treated if the cause of disease is understood.<sup>125</sup> Similarly, the *Aṣṭāṅgahrdaya Sūtrasthāna* 12.64 exhorts physicians not to feel shame (*na jihṛyāt*) if they are not knowledgeable regarding the name of a disease, as there is no firm establishment of all diseases by name.<sup>126</sup> Most named diseases, for example, *jvara* (fever) or *kāsa* (cough), have a number of variations based on the *guṇas* as they aggregate in the *doṣas*, *vāta* or *vāyu*, *pitta*, and *śleṣman* or *kapha*, which then combine with one another to create variants of diseases.

### ***Diagnosis in the Carakasamhitā: Authoritative Teaching***

In the *Carakasamhitā*, instructions for diagnosis are dispersed in various sections of the treatise, particularly in the *Sūtrasthāna*, *Nidānasthāna*, and *Vimānasthāna*. Here I focus on two passages that lay out the epistemological foundation for diagnosis in the text: *Carakasamhitā*, *Sūtrasthāna* 11.17–25 and *Vimānasthāna* 4.1–7. Both of these passages detail the relationship between

<sup>125</sup> *doṣadūṣyanidānānām viparītaṃ hitaṃ dhrūvam | uktānuktān gadān sarvān samyagyuktaṃ niyacchati || (CS Ci 30.292)*

This passage is found in a section of the text that is attributed to Dṛḍhabala. See Meulenbeld, *HIML*, 1A:130–141.

<sup>126</sup> *vikāranāmākuśalo na jihṛyāt kadācana | na hi sarvavikārānām nāmato ’sti dhruvā sthitiḥ || (AH Sū 12.64)*

authoritative teaching and sensory perception as *pramāṇas*, means of valid knowledge, and therefore as the basis for diagnosis. As Karin Preisendanz notes in her detailed analysis of eristics and epistemology in the *Carakasamhitā* in comparison with the *Nyāyasūtra*, these sections articulate two epistemological models.<sup>127</sup> The first model comprises authoritative teaching (*āptopadeśa*), sensory perception (*pratyakṣa*), inference (*anumāna*), and reasoning (*yukti*), and the second model comprises the first three of the *pramāṇas* listed above, excluding *yukti*.<sup>128</sup> While authoritative teaching, perception, and inference are considered distinct *pramāṇas* in other Indian philosophical systems, *yukti* is regarded as a separate form of reasoning only in Ayurveda and will be discussed in more detail in Chapter Three.<sup>129</sup> We will examine these passages, paying close attention to the representation of the physician’s senses in relation to authoritative teaching and in consultation with Cakrapāṇidatta’s *Āyurvedadīpikā* commentary.

The description of the *pramāṇas* given in *Carakasamhitā Sūtrasthāna* 11.17–11.25 is found in the context of an explanation of how one can know the existence of the world-beyond (*paraloka*) in relation to the three desires motivating a human life: “desire for life” (*prāṇaiśaṇā*), “desire for wealth” (*dhanaiśaṇā*), and “desire for the other-world” (*paralokaiśaṇā*).<sup>130</sup> This passage is preceded by a lengthy rebuttal of those who prioritize sensory perception, or *pratyakṣa*, among the *pramāṇas*. As we examined in detail in Chapter One of this dissertation, sensory perception as a *pramāṇa* in the *Carakasamhitā* is based upon the five sense perceptions (*pañcendriyabuddhis*): sight-cognition (*cakṣurbuddhi*), hearing-cognition (*śrotrabuddhi*), smell-cognition (*ghrāṇabuddhi*), taste-cognition (*rasanabuddhi*) and touch-cognition (*sparśanabuddhi*). These five sense cognitions are explained in *Sūtrasthāna* chapter 8, as a conglomeration of the five sense faculties (*pañcendriya*), their five material bases (*pañcendriyadravya*), the five abodes of the senses (*pañcendriyādhiṣṭhāna*), and the five sense objects (*pañcendriyārtha*), motivated by the mind (*sattva*) in conjunction with the self (*ātman*) (*Carakasamhitā Sūtrasthāna* 8.7–12). In this interaction producing sensory perception, mind, the “cause of the senses” (*pratyayabhūtam indriyāṇām*), is the key motivator of the sense faculties in this interaction producing sensory perception.

In *Carakasamhitā Sū* 11.6, we find an acknowledgment that there are those who prioritize sensory perception (*pratyakṣapara*) and therefore do not believe in rebirth as it is imperceptible. They resort to the position of non-belief (*nāstikya*) and attribute birth to causes such as parents and intrinsic nature (*svabhāva*). A rebuttal of this position in *Sū* 11.7 emphasizes the limitations of sensory perception, stating “*pratyakṣam hy alpam*” “indeed, sensory perception is small/limited,” and noting that even the sense faculties themselves cannot be perceived:

<sup>127</sup> Akṣapāda’s *Nyāyasūtra* is the foundational work of *Nyāyāśāstra*, a classical philosophical school of epistemology and logic. Preisendanz, “Logic, Debate and Epistemology,” 262.

<sup>128</sup> Preisendanz’s detailed analysis ultimately reveals three epistemological models in the *Carakasamhitā*: the two discussed here, and a third, derived from *Vimānasthāna* 8.27 and 8.33 resembling *Nyāyasūtra* 1.1.3. Preisendanz, “Logic, Debate and Epistemology,” 287–288.

<sup>129</sup> Dasgupta, *A History of Indian Philosophy*, 2:375; Filliozat, *Classical Doctrine of Indian Medicine*, 33; Preisendanz “Logic, Debate and Epistemology,” 281.

<sup>130</sup> *Carakasamhitā Sūtrasthāna* 11.3. As Pierre Sylvain Filliozat notes, Cakrapāṇidatta assimilates this triad to the *trivarga*, the set of three of the *puruṣārthas* (human-goals)—*dharma* (righteous conduct), *artha* (wealth), and *kāma* (pleasure). See P. Filliozat, “Caraka’s Proof of Rebirth,” 96–97 and “La Logique du Médecin selon la Carakasamhitā,” 1971–1972. For a detailed discussion of the meaning of *paraloka* and *paralokaiśaṇā* in this context, see Preisendanz, “Logic, Debate and Epistemology,” 280, 298nn79, 82, 83, and 84.



In that case, a wise man should renounce the notion of a denial of rebirth and doubt. For what reason? Indeed, sensory perception is small [in scope], [the scope of what] cannot be perceived is large, which can be known by means of authoritative teaching (*āgama*), inference (*anumāna*), and reasoning (*yukti*). For example, the sense faculties themselves by means of which sense perception is known, they also exist beyond sensory perception.<sup>131</sup>

It is following this strong refutation of *pratyakṣa* as a sole means of valid knowledge and the subsequent discussion of the existence of rebirth that we find the following passage laying out the *pramāṇas*, prioritizing authoritative teaching (*āptopadeśa/āgama*) and the authoritative individual (*āpta*):

### Carakasamhitā Sūtrasthāna 11.17–11.25

Everything is twofold, indeed, existent (*sat*) and nonexistent (*asat*).<sup>132</sup> Its fourfold examination is [known as] authoritative teaching, sensory perception, inference, and reasoning.<sup>133</sup>

First, the authoritative ones (*āpta*): Those who are completely free from passion and inertia by means of the strength of spiritual endeavor and knowledge, who always possess clear unimpeded knowledge of the past, present, and future; those learned, enlightened authorities; their speech is, without a doubt, true. Those who are completely free from passion (*nīrajastama*), how could they speak the untruth?<sup>134</sup>

<sup>131</sup> *tatra buddhimān nāstikyabuddhiṃ jahyād vicikitsām ca | kasmāt pratyakṣam hy alpam analpam apratyakṣam asti yad āgamānumānayuktibhir upalabhyate yair eva tāvad indriyaiḥ pratyakṣam upalabhyate tāny eva santi cāpratyakṣāni || (CS Sū 11.7)*

<sup>132</sup> Here I follow Preisendanz’s translation of *sat* and *asat* as “existent” and “inexistent.” Preisendanz, , “Logic, Debate and Epistemology,” 280.

<sup>133</sup> *dvividham eva khalu sarvaṃ sac cāsac ca tasya caturvidhā parīkṣā āptopadeśaḥ pratyakṣam anumānaṃ yuktiś ceti || (CS Sū 11.17)*

<sup>134</sup> *āptās tāvat ||*

*rajastamobhyāṃ nirmuktās tapojñānabalena ye | yeṣāṃ trikālam amalāṃ jñānam avyāhataṃ sadā || (CS Sū 11.18)*

*āptāḥ śiṣṭā vibuddhās te teṣāṃ vākyam asaṃśayam | satyaṃ vakṣyanti te kasmād asatyaṃ nīrajastamāḥ || (CS Sū 11.19)*

I translate *nīrajastamāḥ*, following Cakrapāṇidatta, as “those who are completely free from passion.” He notes that *tamas* in this compound is the *tamaḥ pratyaya* added to the word *rajas*, a *taddhita* affix indicating a superlative form of *rajas*. This is in reference to Pāṇini’s *Aṣṭādhyāyī*, 1.1.22 and 5.3.55. He glosses “The word ‘*nīrajastamāḥ*,’ ends with a *tamaḥ pratyaya*. Therefore, through the extreme (*prakarṣeṇa*) state of being free from *rajas*, *tamas* also is cast aside. Indeed, in the man free from *rajas* in every way, *tamas* does not arise.” *nīrajastamā itī tamapratyayāntaḥ śabdaḥ, tena nīrajas tv aprakarṣeṇa tamo ‘pi vyudastaṃ bhavati; na hi sarvathā nīrajas ke prurṣe tamo bhavati ... Carakasamhitā*, 71. Also, see these passages in Pāṇini, *Aṣṭādhyāyī of Pāṇini*.

The cognition (*buddhi*) which is manifest in the present [and] arises due to the conjunction of self,<sup>135</sup> sense faculties, mind, and sense objects, is known as sensory perception (*pratyakṣa*).<sup>136</sup>

[Inference] is preceded by perception, it is threefold, and relates to the present, past, and future. Hidden fire is inferred from smoke; sexual intercourse is inferred because of seeing pregnancy—in this way, wise men ascertain the past; they ascertain future fruit from a seed, having seen here that from a seed a fruit of the same kind arises.<sup>137</sup>

From the conjunction of water, ploughing, seed, and season, grain arises. In this way, the fetus arises from the conjunction of the six elements, [this is] reasoning (*yukti*). Fire arises from the conjunction of the fire-kindler (*mathya*), kindling wood (*manthana*), and the person churning (*manthāna*). The application of reasoning (*yukti*), in relation to the excellence of the “four supports” destroys disease.<sup>138</sup>

Reasoning (*yukti*) is that cognition (*buddhi*) which recognizes existence arisen from the conjunction of many causes. It is to be understood as referring to the three [modes of] time. In which manner, the “three beneficial pursuits” (*trivarga*) are accomplished by it.<sup>139</sup>

<sup>135</sup> Comba shows that the term *buddhi* can be understood in different passages of the *Carakasamhitā* through the lens of Sāṃkhya philosophy as a faculty of intellect, or through the lens of Vaiśeṣika philosophy as “‘knowledge’ or ‘cognition,’ which is understood as a quality or attribute (*guṇa*) of the *ātman* [Self], and is one of the signs from which its existence can be inferred.” Comba, “Carakasamhitā Śārīrasthāna I and Vaiśeṣika Philosophy,” 48–49. In this passage, I translate *buddhi* in the Vaiśeṣika sense, as it is a cognition that corresponds to both inference and reasoning in *Sūtrasthāna* 11.22 and 11.25, respectively. Cf. P. S. Filliozat, “La Logique du Médecin selon la Carakasamhitā,” 1967 n10.

<sup>136</sup> *ātmendriyamanorthānām sannikarṣāt pravartate |*  
*vyaktā tadātve yā buddhiḥ pratyakṣam sā nirucyate || (CS Sū 11.20)*

<sup>137</sup> *pratyakṣapūrvaṃ trividhaṃ trikālaṃ cānumīyate |*  
*vahnir nigūḍho dhūmena maithunaṃ garbhadarśanāt || (CS Sū 11.21)*

*evaṃ vyavasyanty aṭītaṃ bījāt phalam anāgatam |*  
*drṣṭvā bījāt phalaṃ jātam ihaiva sadrṣam budhāḥ || (CS Sū 11.22)*

<sup>138</sup> *jalakarṣanabījartusaṃyogāt sasyasaṃbhavaḥ |*  
*yuktiḥ ṣaḍdhātusaṃyogād garbhāṇām saṃbhavas tathā || (CS Sū 11.23)*

*mathyamanthana(ka)manthānasaṃyogād agnisambhavaḥ |*  
*yuktivyaktā catuṣpādasamṣpad vyādhinibarhaṇī || (CS Sū 11. 24)*

*Carakasamhitā, Sūtrasthāna* chapter 9, describes the “four supports” (*catuṣpāda*) of Āyurveda as the physician, medicine, attendant, and patient. Gaṅgādhara’s succinct reading clarifies the passage. He explains, “‘*mathya*’ is the wood-piece situated below which has the purpose of churning, called the ‘*araṇi*,’ ‘*manthana*’ is the wood-piece situated above, with which the *araṇi*, is rubbed, ‘*manthāna*’ is the person churning (lit. the ‘churner’).” *mathyamanthanamanthānasaṃyogād agnisambhavaḥ | mathyaṃ manthanārtham adhaṣṭhakāṣṭham araṇir nāma manthanam ūrdhvasthakāṣṭham yena ghrīyati manthānaḥ kartā eṣaṃ saṃyogān manthanakriyāvaśyam agnisambhava iti bhaviṣyanti yuktiḥ |* See Gaṅgādhara’s *Jalpakaḥpatāru*, 1:541. For a thorough discussion of the four “pillars” of treatment as they are explained across a range of Ayurvedic texts, see Dagmar Wujastyk, *Well-Mannered Medicine*, 26–67.

<sup>139</sup> *buddhiḥ paśyati yā bhāvān bahukāraṇayogajān |*  
*yuktis trikālā sā jñeyā trivargaḥ sādhyate yayā || (CS Sū 11.25)*  
*eṣā parīkṣā nāstyanyā yayā sarvaṃ parīkṣyate |*

In explaining the *pramāṇas*, this passage foregrounds the importance of authoritative teaching by describing the qualities of the authoritative person (*āpta*) at the outset. The authoritative person, who is capable of authoritative teaching (*āptopadeśa*) or authoritative speech (*āptavacana*), must achieve a state free from the *doṣas* of the mind, passion (*rajas*), and inertia (*tamas*).<sup>140</sup> This is accomplished through the practice of *tapas*, which can be translated as austerities, “penance,” or “spiritual endeavor” in order to achieve an idealized state of knowledge pertaining to the past, present, and future.<sup>141</sup> Next, the passage describes sensory perception as a form of cognition (*buddhi*) that takes place in the present moment, involving the self (*ātman*), sense organs (*indriyas*), mind (*manas*), and sense objects (*arthas*). The *āpta* is one whose mind is free from *doṣas*, and the teaching of an *āpta* is infallible in contrast to the sensory perception of a non-*āpta*. For the practitioner engaging with the text of the *Carakasamhitā*, the source of authoritative teaching is not only the *guru*, or teacher, but also the treatise itself, presumably reflecting the *āpta* status of its authors. The sensory perceptual capacities of practitioners are understood as built upon their relationship to authoritative teaching, and without its basis, the physician cannot perceive clearly and thereby cannot infer or reason accurately. Whereas the *āpta* is believed to perceive the past, present, and future, the physician must combine sensory observation with inference and/or reasoning in order to understand the unfolding of a disease and to diagnose. G. Ashokan contrasts the primacy of authoritative teaching in Ayurveda with other philosophical systems, explaining that “in Ayurveda scriptural knowledge is an essential prerequisite for a physician. It is only after attaining competency in scriptural testimony that a physician becomes proficient in making use of the other sources of knowledge for diagnosis.”<sup>142</sup> Although the knowledge attained by an authoritative individual through the practice of *tapas* may come to them through insight or revelation, their presumed clarity of mind also suggests that they have special sensory perceptive capacities, serving as an ideal toward which the physician should strive.

The relationship between authoritative teaching and the sensory perceptual capacity of the physician is further explored in a passage explaining the mechanisms of diagnosis, *Carakasamhitā Vimānasthāna*, chapter 4. *Vimāna* means “evaluation”<sup>143</sup> and the chapters of the *Carakasamhitā Vimānasthāna* explain, in succession, the *viśeṣas* (specific characteristics or distinctions) of the six flavors, stomach capacity, epidemics, and in the fourth chapter, diseases

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*parīkṣyaṃ sad asac caivaṃ tayā cāsti punarbhavaḥ || (CS Sū 11.26)*

Gaṅgādhara explains *trivarga* in this passage as the set of three of the *puruṣārthas* (human-goals)—*dharma* (righteous conduct), *artha* (wealth), and *kāma* (pleasure). However, in his recent philological study of these terms, Olivelle shows that in the early first millennium the *trivarga*, in reference to *dharma*, *artha*, and *kāma*, “represent three major domains of human activities and pursuits that are beneficial to persons who perform them.” *Carakasamhitā by the Great Sage Bhagavata*, 1:541; Olivelle, “From Trivarga to Puruṣārtha,” 395.

<sup>140</sup> In *Carakasamhitā Sūtrasthāna* 1.57, *rajas* and *tamas* are explained as the two *doṣas* of the mind, along with the three *doṣas* of the body.

<sup>141</sup> Meulenbeld, *HIML*, 1A:59; Ashokan, *Philosophy of Carakasamhitā*, 194.

<sup>142</sup> Ashokan, *Philosophy of Carakasamhitā*, 194.

<sup>143</sup> In a paper given at the International Congress on Traditional Asian Medicines, August 9, 2017, Dominik Wujastyk argued that in the *Carakasamhitā*, the term *vimāna* is to be understood as deriving from a verbal root  $\sqrt{mā}$ , meaning “ascertain.” Wujastyk’s convincing argument, based on both Cakrapāṇidatta’s commentary and a paper by Thomas Burrow (1980), goes against the conventional translation of *vimāna* as “measurement” derived from the verbal root  $\sqrt{mā}$  meaning “measure.” Wujastyk, “What is Vimāna in the Context of the *Carakasamhitā*?”

(there are eight chapters total). This section of the compendium also emphasizes the fundamental place held by authoritative teaching, defining its characteristics and relationship to the other *pramāṇas*. Cakrapāṇidatta emphasizes this in his commentary on *Vimānasthāna* 4.5, explaining that just as a person with no training cannot see the differences and specificities of types of jewels, neither can the physician assess a disease through sensory perception and inference without a foundation of authoritative teaching.<sup>144</sup> But it also very clearly outlines how the physician is to use sensory observation in gathering information for diagnosis. Here, I include only the discussion of authoritative teaching and sensory perception, along with an excerpt from Cakrapāṇidatta’s clarifying discussion of the way that these *pramāṇas* function for a physician.

### Carakasamhitā Vimānasthāna 4.1–4.7

Now we will explain the evaluation (*vimāna*) that is to be understood as the threefold knowledge of the distinguishing properties of diseases, said venerable Ātreya.<sup>145</sup>

Indeed, there is threefold knowledge of the distinguishing properties of diseases, namely, authoritative teaching, perception, and inference.<sup>146</sup>

In that context, authoritative teaching is called “the speech of an authority” (*āptavacana*), because, indeed, authoritative people possess knowledge without doubt (*vitarka*), without [reliance on] memory (*smṛti*), or without incompleteness (*vibhāga*), and without attachment or hatred.<sup>147</sup> Their speech is a means of valid knowledge (*pramāṇa*) because they possess such qualities. On the other hand, a means of invalid knowledge is the speech of an intoxicated person, a mentally unstable person, a fool, an impassioned person, and a person of mixed character. And indeed, sensory perception (*pratyakṣa*) is accomplished by the self with the sense faculties and mind. Indeed, inference (*anumāna*) is speculation (*tarka*) based on reasoning (*yukti*).<sup>148</sup>

<sup>144</sup> *anupadeśavāms tān upalabhamāno 'pi hetvādiviśeṣān aśikṣitaratnaparīkṣo yathā ratnānām viśeṣam paśyann api nāvadhārayati ratnaviśeṣam tathā nāvadhārayati vyādhiviśeṣam iti bhāvaḥ* || *Carakasamhitā*, 248.

<sup>145</sup> *athātas trividharogaviśeṣavijñānīyaṃ vimānaṃ vyākhyasyāmaḥ* || *iti ha smāha bhagavān ātreyaḥ* || (CS Vi 4.1–2)

<sup>146</sup> *trividhaṃ khalu rogaviśeṣavijñānaṃ bhavati tad yathā āptopadeśaḥ pratyakṣam anumānaṃ ceti* || (CS Vi 4.3)

<sup>147</sup> According to Cakrapāṇidatta, *smṛtijñāna* means knowledge that is learned from others, through commonly held beliefs or teachings, rather than through firsthand experience (*anubhava*). He cites the examples of “knowledge arisen from traditional teachings and knowledge of calculation” (*smṛtisāstrajāṃ jñānaṃ gaṇitajñānaṃ ca*).

*vibhāga* is glossed by Cakrapāṇidatta as *ekadeśaḥ*, “part of the whole.”

<sup>148</sup> *tatrāptopadeśo nāmāptavacanam | āptā hy avitarkasmṛtivibhāgavidō niṣprītyupatāpadarśinaś ca | teṣāṃ evaṃguṇayogād yad vacanam tat pramāṇam | apramāṇam punar mattonmattamūrkharaḥkardaduṣṭāduṣṭavacanam iti pratyakṣam tu khalu tad yat svayamindriyair manasā copalabhyate | anumānaṃ khalu tarko yuktyapekṣaḥ* || (CS Vi 4.4)

Cakrapāṇidatta’s gloss suggests that *svayam indriyaiḥ* is to be understood as *ātmanā indriyaiḥ*, “by the sense faculties with the self.” *svayam indriyair manasā cety anena yad ātmanendriyaiś cakṣurādibhir avyavadhānena grhyate rūpādi tat pratyakṣam iti*.

In this passage, *yukti* is understood as a component of *anumāna* rather than as a separate *pramāṇa*.

Having first examined the disease fully by this threefold means of valid knowledge, everything he determines later [will be] faultless.<sup>149</sup> Indeed, knowledge of that which is to be understood completely is not produced through partial knowledge. In reference to this threefold collection of *pramāṇas*, there is prior knowledge because of authoritative teaching. Then, examination takes place through perception (*pratyakṣa*) and inference (*anumāna*). Indeed, what that has not been previously taught can be known by being examined through perception and inference? Because of this, the twofold examination [undertaken by] those possessing knowledge is perception and inference, or threefold with [authoritative] teaching.<sup>150</sup>

[Cakrapānidatta]: .... First, authoritative teaching makes one understand the disease, and then the disease explained by the *āpta* is determined through perception and inference by means of examining the symptoms, etc., as mentioned. When there is a disease that is not taught through the doctrine, like a non-physician (*avaidya*), one (the physician) [is not able to] diagnose that disease through perception and inference. Thus, it is said ... “or threefold” means at the time of examination of the disease, indeed, authoritative teaching is also used in reference to understanding weakness of the duodenum (*grahaṇīmārdava*) or dreams, [and also] knowledge of a difficult-to-assess location [of disease], etc.<sup>151</sup> In this manner, “authoritative teaching” in the form of the speech of the sick person is also applied to the examination of softness or hardness of stools, etc. This is shown.<sup>152</sup>

In reference to this, wise ones explain each and every disease [based upon] the type of aggravation, origin, cause, nature, site, sensation, symptom, sound–touch–appearance–taste–smell, complication (*upadrava*), association with increase, stasis, and decrease, outcome, naming, application; in reference to that (particular disease), it is known

<sup>149</sup> Cakrapānidatta glosses *jñānasamudāyāḥ* as *pramāṇasaṅghātaḥ*, “collection of means of valid knowledge.” So, here, I translate *jñāna* as *pramāṇa*.

<sup>150</sup> *trividhena khalv anena jñānasamudāyena pūrvaṃ parīkṣya rogaṃ sarvathā sarvaṃ athottarakālam adhyavasānam adoṣaṃ bhavati na hi jñānāvayavena kṛtsne jñeye jñānam utpadyate | trividhe tv asmin jñānasamudāyena pūrvaṃ āptopadeśāj jñānaṃ tataḥ pratyakṣānumānābhyāṃ parīkṣopapadyate | kiṃ hy anupadiṣṭaṃ pūrvaṃ yat tat pratyakṣānumānābhyāṃ parīkṣamāṇo vidyāt | tasmād dvividhā parīkṣā jñānavatāṃ pratyakṣam anumānaṃ ca trividhā vā sahopadeśena || (CS Vi 4.5)*

<sup>151</sup> *Grahaṇī* refers to a location in the digestive tract that is between the umbilicus (*nābhi*) and stomach (*amaśaya*) and also to the malabsorption of food in this location due to weak digestive fire (*agni*). At issue here is the physician’s ability to differentiate between different types of bowel disorders: *grahaṇī*, characterized by frequent loose stools containing undigested or partly digested food; *atisāra*, characterized by loose stools with excess fluid; and *arśas*, piles, characterized by frequency of stools. Here, Cakrapānidatta is arguing for authoritative teaching as the foundation of—what we might call today—“differential diagnosis,” a process by which the physician uses comparison and elimination to determine the nature of the disease. See *CS Ci* 15.56–57.

<sup>152</sup> .... | *prathamāptopadeśo vyādhiṃ bodhayati tatas cāptopadiṣṭaṃ vyādhiṃ pratyakṣānumānābhyāṃ yathoktalingādiparīkṣyā niścinoti āgamānupadiṣṭe ca vyādhau avaidya iva na pratyakṣeṇānumānena ca vyādhiṃ upalabhata ityāha ... trividhā vety anena vyādhiparīkṣāsamāyē hy āptopadeśo ’pi vyāpriyate grahaṇīmārdavasvapnadarśanādipratipattau tathā duradhigamasthānasamśrayādipratipattau tathā koṣṭhamṛdudaruṇatvādiparīkṣāyāṃ cāturavacanarūpāptopadeśo ’pi vyāpriyata iti darśayati | Carakasamhitā, 247–248.*

through [authoritative] teaching, “for the purposes of cure, this is prescription or this is prohibition.”<sup>153</sup>

But, indeed, the one desiring to know the truth of the disease directly should examine all of the perceptible features of the body of the patient, with all his senses, except with the knowledge of taste. Thusly, one should examine through hearing: gurgling of the bowels, cracking of the joints and finger joints, and characteristics of the voice. If there should be any other sounds occurring in the body one should also examine [them] through hearing. One should examine through sight: complexion, appearance, measurement, and shade, natural or changed state of the body, [and] those things related to vision that are not mentioned [here]. And indeed, one should also understand, through inference, the taste existing in body of the patient, related to the [taste] sense faculty. Indeed, it is not possible to know it through sensory perception. Therefore, one should understand the taste in the mouth of the patient only by questioning the patient. However, one should infer the bad taste of the [patient’s] body from a louse moving away [from it], the sweetness of the body, from flies moving toward [it]. In the case of doubt about [the nature of] *pitta* in the blood, if one does not know whether it is healthy blood (*dhārilohita*) or “bile-blood” (*lohitapitta*),<sup>154</sup> “healthy blood” is to be inferred from consumption by a dog or crow; from their not consuming [it], “bile-blood” is to be inferred. Thus, [the physician] should also infer other flavors in the body of the patient. But indeed, one should examine by smell the natural or changed state of odors related to the patient’s whole body. And one should examine by hand the natural or altered state of touch [of the patient]. Examination through perception, inference, and authoritative teaching is thus explained.<sup>155</sup>

This passage begins by explaining in detail the qualities of authoritative teaching (*CS Vi* 4.4) and proceeds to establish authoritative teaching as the basis for sensory perception and inference (*CS Vi* 4.5) in the physician’s diagnostic process. First, one must have prior knowledge of the disease and, only then, use sensory perception to assess the patient. Through the use of sight, smell, touch, and hearing the physician’s body is deeply implicated in the process of

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<sup>153</sup> *tatredam upadiṣanti buddhimantaḥ | rogam ekaikam evaṃprakopaṇam evaṃyonim evamutthānam evamātmānam evamadhiṣṭhānam evaṃvedanam evaṃsamsthānam evaṃśabdaspārśarūparasagandham evamupadravam evaṃvṛddhisthānakṣayasamanvitam evamudarkam evaṃnāmānam evaṃyogam vidyāt tasmīn iyaṃ pratīkārthā pravṛttir athavā nivṛttir ity upadeśāj jñāyate||* (*CS Vi* 4.6)

<sup>154</sup> Cakrapānidatta explains *dhārilohitam* as *jīvaśoṇitam*, in the sense of vital or healthy blood and *lohitapittam* as *pittadustaṃ*, blood “corrupted by *pitta*” in the sense of *raktapittam*, “bile-blood.”

<sup>155</sup> *pratyakṣatas tu khalu rogatattvaṃ bubhutsuḥ sarvair indriyaiḥ sarvān indriyārthān āturaśarīragatān parīkṣeta anyatra rasajñānāt tad yathā antrakūjanaṃ sandhisphuṭanam aṅgulīparvaṇāṃ ca svaraviśeṣāṃ ca ye cānye ’pi kecic charīropagatāḥ śabdāḥ syu[s]tāñ chrotreṇa parīkṣeta varṇasamsthānapramāṇacchāyāḥ śarīraprakṛtīvīkārāu cakṣurvaiśayikāni yāni cānyānyanuktāni tāni cakṣuṣā parīkṣeta rasam tu khalv āturaśarīragatam indriyavaiśayikam apy anumānād avagacchet na hy asya pratyakṣeṇa grahaṇam upapadyate tasmād āturapariprasṇenaivāturamukharasam vidyāt yūkāpasarpaṇena tv asya śarīravairasyaṃ makṣikopasarpaṇena śarīramādhuryaṃ lohitapittasamdehe tu kiṃ dhārilohitam lohitapittam veti śvakākabhakṣaṇād dhārilohitam abhakṣaṇāl lohitapittam ity anumātavyam evam anyān apy āturaśarīragatān rasān anumimīta gandhāṃs tu khalu sarvaśarīragatānāturaśya prakṛtīvaikārikān ghrāṇena parīkṣeta spārśam ca pāṇinā prakṛtīvikṛtīyuktam | iti pratyakṣato anumānād upadeśatāś ca parīkṣaṇam uktam ||* (*CS Vi* 4.7)

diagnosis. Taste, however, seems to constitute a problem and we will return to this point later in the chapter in our discussion of blood and *sensory mediation*. Sensory perception enables the physician to identify and differentiate the sense objects reflected in the disease.

Preisendanz notes that at the end of *Vimānasthāna* 4.5 there appears to be a shift toward prioritization of sensory perception that is also reflected in the order presented at the end of *Vimānasthāna* 4.7. She argues that this may reflect a relationship with *Nyāya* philosophy, which recognizes sensory perception as the primary basis for valid knowledge.<sup>156</sup> Her detailed analysis is based upon over fifty manuscripts collected as part of a project compiling a critical edition of the *Carakasamhitā Vimānasthāna* and reflects an understanding of the layers in the text and variant attestations of the treatise. Here, the mention of a “twofold examination” consisting of sensory perception and inference, or “threefold” with authoritative teaching listed third, presents a reordering of the importance of the *pramāṇas* with authoritative teaching as an adjunct to sensory perception and inference. However, it is notable that these enumerations are immediately preceded by a question prioritizing authoritative teaching: “Indeed, what that has not been previously taught can be known by being examined through perception and inference?” The passage also specifies that the twofold examination is to be employed by “those possessing knowledge,” which I interpret as referring to those who have already received authoritative testimony, indicating that the implicit basis of authoritative teaching remains present. Those who are not already possessing knowledge should count authoritative teaching among the set of three.

Cakrapāṇidatta’s commentary on *Vimānasthāna* 4.5 also strongly emphasizes the primacy of authoritative teaching in the diagnostic process, but he also states that the patient’s description of certain symptoms that cannot be directly observed by the physician qualify as a form of authoritative teaching. Although this may challenge the description of *āpta* found in chapter 11 of the *Sūtrasthāna*, it is consistent with the importance of questioning the patient in the threefold model for examination found in *Carakasamhitā Cikitsāsthāna* 25.22–23, prescribing sight, questioning, and touch in collecting information for diagnosis:

Examination is said to be (lit. remembered) threefold, by means of seeing, questioning, and touch; [examination] of age, coloration, body, and sense faculties [is to be made] by means of seeing, the wise ones should examine pain, habit, and strength of digestive fire through questioning, softness and coldness with their opposites should be examined by means of touch.<sup>157</sup>

This passage was likely the inspiration for *Aṣṭāṅgahṛdaya Sūtrasthāna* 1.22, which we will examine in a moment. However, in the chronologically later passage from *Aṣṭāṅgahṛdaya*, the presented order is seeing, touch, and questioning. We will discuss chronology in relation to the use of the senses in diagnosis later in the chapter, so it is important to note that this passage found in a section of the *Carakasamhitā* that may have been written by Dṛḍhabala when he redacted the treatises in the fourth or fifth century, rendering it a later addition.<sup>158</sup>

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<sup>156</sup> Preisendanz, “Logic, Debate and Epistemology,” 286–288.

<sup>157</sup> *darśanapraśnasamsparsaiḥ parīkṣā trividhā smṛtā |*  
*vayovarnaśarīrāṇām indriyāṇām ca darśanāt || (CS Ci 25.22)*  
*hetvartīsātmyāgnibalaṃ parīkṣyaṃ vacanād buddhaiḥ |*  
*sparsān mārdaśaitye ca parīkṣye saviparyaye || (CS Ci 25.23)*

<sup>158</sup> Meulenbeld, *HIML*, 1A:131. See footnote 108 in this chapter.

There are other passages in the *Carakasamhitā* that do not foreground authoritative testimony. *Vimānasthāna* 8.33, a passage on eristics examined in detail by Preisendanz, describes the means to understand the cause (*hetu*) as *pratyakṣa*, *anumāna*, *aitihyam* (received tradition/authoritative teaching), and *aupamyam* (analogy). The *Indriyasthāna*, a section of the treatise dealing with signs of impending death, lists the means to assess factors to determine the remainder of a patient’s lifespan (*āyusaḥ pramāṇāvaśeṣam*), in the following order, in *Indriyasthāna* 1.3: *pratyakṣa*, *anumāna*, and *upadeśa* (instruction, equal to *āptopadeśa*). Cakrapāṇidatta explains that in this context (*iha*), *pratyakṣa* is listed first among all of the *pramāṇas* because of priority (*pratyakṣapūrvakatvāt sarvapramāṇānām ihātau pratyakṣam*). But we learn in the next statement (*In* 1.4) that its priority is, indeed, contextual and applies only to direct examination of the patient. *Sūtrasthāna* 1.4 describes two categories of signs, those residing in the patient (*puruṣasaṁśraya*) and those not dependent upon the patient (*puruṣam anāśrita*). In order to examine the first category, which includes the patient’s complexion and sounds emanating from the body, and entails observation of normal or changed states, sensory perception is the most important *pramāṇa*. In reference to the second category, including omens, authoritative teaching and reasoning are most important.<sup>159</sup> So here too, authoritative teaching has its critical place.

### ***Diagnosis in the Suśrutasamhitā: Sensory Perception***

In the *Suśrutasamhitā*, a brief exposition of the *pramāṇas* is given in the context of a dialogue near the beginning of the treatise. The students of King Devodāsa, including Suśruta, are receiving his exposition on each of the eight limbs of Āyurveda—*śalya* (surgery), *śālākya* (“probing” [neck and above]), *kāyacikitsā* (treatment of the body/general medicine), *bhūtavidyā* (“science of existent beings,” medicine addressing beings, such as spirits, understood to possess other beings), *kaumārabhṛtya* (nourishment related to children/pediatrics), *agadatantra* (doctrine on poison), *rasāyanatantra* (doctrine on rejuvenation), and *vājīkaraṇatantra* (doctrine on aphrodisiacs).<sup>160</sup> When he asks them which of the eight limbs they would each like to learn about, they request to be taught the entirety but with an emphasis on surgery (*śalyajñānam mūlaṁ kṛtvā*, lit. having made knowledge of surgery primary, *Suśrutasamhitā Sū* 1.11). It is in the context of this introductory exposition that *Sūtrasthāna* 1.16 lists four *pramāṇas* prioritizing *pratyakṣa*:<sup>161</sup>

Having understood its (Āyurveda’s) first and best branch (surgery), being explained, consistent with sensory perception (*pratyakṣa*), authoritative teaching (*āgama*), inference (*anumāna*), and comparison (*upamāna*).<sup>162</sup>

<sup>159</sup> *tatra tu khalv eṣāṁ parīkṣyāñāṁ kānicit puruṣam anāśritāni kānicic ca puruṣasaṁśrayāṇi | tatra yāni puruṣam anāśritāni tāny upadeśato yuktiś ca parīkseta puruṣasaṁśrayāṇi punaḥ prakṛitito vikṛititāś ca || (CS In 1.4)*

<sup>160</sup> Here I follow Frederick Smith’s literal translation of *bhūtavidyā* in his chapter on possession in Āyurvedic medicine. Smith, *The Self Possessed*, 472.

<sup>161</sup> This passage does not explicitly label these four categories as *pramāṇas*. Rather it states that the teachings being offered are not obstructed by, or are consistent with, these four known means of valid knowledge.

<sup>162</sup> *tasyāṅgavaram ādhyam pratyakṣāgamānumānopamānair aviruddham ucyaṁānam upadhāraya || (SS Sū 1.16)*

This list is similar to that presented in *CS Vimānasthāna* chapter 8 mentioned above.



Ḍalhaṇa explains each of these *pramāṇas* in turn, emphasizing the relationship between authoritative teaching (*āgama*) and inference (*anumāna*): “There is the greater importance of *āgama* because it results from perception, therefore it was explained before inference.”<sup>163</sup> From this comment, we can discern two important points. First, that the list order indicates the relative importance of listed items. This renders the list precisely in opposition to the refutation of *pratyakṣa* presented in the *Carakasamhitā*. Second, building upon this, that even textual or human authority—here *āgama* instead of *āptopadeśa*—rests on the primacy of sensory perception (*pratyakṣa*). Ḍalhaṇa describes *pratyakṣa* as follows:

Sensory perception is whatsoever knowledge of the object (is obtained) through making evident to the senses, that alone is sensory perception. For instance, the thing gone to the sense organs and mind unmistaken is called “sensory perception” (*pratyakṣa*). Discord of the sense faculties in reference to the reality of the thing is termed “error.”<sup>164</sup>

The fourth means of knowledge, analogy (*upamāna*), also emphasizes sensory datum through comparative visual and sensorial descriptions in the treatise, for example, in *Nidānasthāna* 5.8 we find various types of wounds described in comparison to flowers.

In *Suśrutasamhitā Sūtrasthāna* 10.4–5, a sixfold method of diagnosis via the five sense organs (*srotas*) and questioning (*praśna*) is given, in explicit contrast to the threefold method of “seeing, questioning, and touch” given in *Carakasamhitā Cikitsāsthāna* 22.25 (reiterated in a different order in *Aṣṭāṅgahrdaya Sūtrasthāna* 1.22).<sup>165</sup> *Suśrutasamhitā* 10.4–5, given in the context of entry into the path of practice (discussed earlier), begins with a direct refutation of the threefold method.

Hence, having approached the house of the patient with favorableness of messenger, omen, portent-bird, and auspicious items, entering, one should observe, touch, and question the patient, some say, as a rule, diseases should be known by that threefold means of knowledge, but this is not correct. Indeed, there is a sixfold means of knowledge of diseases, namely by the ears, etc. (five sense organs), and questioning.<sup>166</sup>

Then, the text proceeds to name and describe how the physician is to use his sense faculties to describe the patient.

Therein, in reference to diseases, the distinguishing characteristics to be known through the hearing-faculty will be mentioned there, in the treatment of the topic of wounds and discharge: “In that case, wind, causing foaming blood to rise, issues forth, with sound,”

<sup>163</sup> *āgamasya pratyakṣaphalatvāt varīyastvaṃ tenānumānāt pūrvam nirdiṣṭavān* | *Suśrutasamhitā*, 4.

<sup>164</sup> *pratyakṣam iti yat kiṃcit evārthasya sāṅgātīkārijñānaṃ tad eva pratyakṣam, tathā hi, “mano’kṣagatam abhrāntaṃ vastu pratyakṣam ucyate | indriyāṇām asaṃjñānaṃ vastutatve bhramah smṛta—” iti ...* | *Suśrutasamhitā*, 4.

<sup>165</sup> *darśanapraśnasamsparsaiḥ parīkṣā trividhā smṛtā* | (CS Ci 25.22)

<sup>166</sup> *tato dūtanimittasakunamaṅgalānulomyenāturagrham abhigamya upaviśya āturam abhipaśyet sprśet pṛcchec ca tribhir etair vijñānopāyai rogāḥ prāyaśo veditavyā ity eke tat tu na samyak ṣaḍvidho hi rogāṇām vijñānopāyaḥ tadyathā pañcabhiḥ śrotrādibhiḥ praśnena ceti* || (SS Sū 10.4)

and so on.<sup>167</sup> Those things to be known by the touch-faculty, coldness, heat, smoothness, roughness, softness, hardness, etc. (are the distinguishing characteristics of touch)<sup>168</sup> in cases of fever and swelling etc. Those things to be known by the sight faculty are the change of state (*vikāra*) of building up, wasting, signs of health, strength, and coloration, etc. of the body. Those things to be known by the taste-faculty are the distinguishing characteristics of flavors in the case of urinary disorders, etc. Those to be known by the olfactory faculty are the distinguishing characteristics of smells of wounds and non-wounds, and in the case of the signs of imminent death. And by questioning, one should know, the characteristics of location, time, social category, wholesomeness, the origin the disease, increase of pain, strength, digestive capacity, the activity and inactivity of urine, feces, etc. due to *vāta*, and duration (of disease), etc. One should know, by situating that (condition) in reference to the method of knowing according to the nature/*doṣa*.<sup>169</sup>

Whether stated explicitly—as in the case of touch—or not, this description of how one should assess a patient based on the sense faculties relies on assessment of physical attributes, *guṇas*. In the case of touch, the *guṇas* of coldness, heat, smoothness, roughness, softness, and hardness are listed with additional attributes indicated by etcetera. Ḍalhaṇa’s gloss on how one assesses similarity to the *doṣas* emphasizes a *guṇa*-based approach to diagnosis:

“Corresponding to the nature” [means] corresponding to the *doṣa*, “in reference to the method of knowing” is sixfold, questioning and ears, skin, eyes, tongue, nose. Therein, in reference to the five senses-and-questioning method of knowing corresponding to *vāta*, in the case of a wound, foaming blood issuing forth with sound is grasped/perceived (*grahya*) by the ears; roughness or dryness etc. is to be grasped by the skin; coloration of ash, pigeon-grey, or bone is to be grasped with the eyes; pungency or parched grain odor, etc. is to be grasped by the nose; astringency is to be grasped with the tongue; pain, fattening, and thinning are to be grasped by questioning. In the case of the means of knowing corresponding to *pitta*, heat of the swelling or wound is to be grasped by the skin; blueness and yellowness is to be grasped by the eyes; bitterness and sourness is to be grasped by the tongue; sharp (*tīkṣṇa*) or flaxy (flax, *atasī*) odorousness is to be grasped by the nose; the specific types of sensation *oṣa*, *coṣa*, *paridaha* (different types of burning) etc. are to be grasped through questioning. In the case of the means of knowing corresponding to *śleṣman*, oily, slimy, etc. is to be grasped by the skin; whiteness is to be grasped by the eyes; sweetness etc. is to be grasped by the tongue; musty odorousness is

<sup>167</sup> The passage cited here is from *Suśrutasaṃhitā Sūtrasthāna* 26.10.

<sup>168</sup> The editor notes: ‘*sparśaviśeṣāḥ*’ *iti hastalikhitaḥ* *apustake na paṭhyate*. “Distinguished by touch” is not read in the manuscript.

<sup>169</sup> *tatra śrotrendriyavijñeyā viśeṣā rogeṣu vranāsrāvavijñānīyādiṣu vaksyante tatra saphenaṃ raktam īrayannanilah saśabdo nirgacchati ityevamādayaḥ sparśanendriyavijñeyāḥ śītoṣṇaślakṣṇakarkaśamṛdukaṭhinatvādayaḥ (sparśaviśeṣā) jvaraśophādiṣu cakṣurindriyavijñeyāḥ śarīropacayāpacayāyurlakṣaṇabalavarṇavikārādayaḥ rasanendriyavijñeyāḥ pramehādiṣu rasaviśeṣāḥ ghrānendriyavijñeyā ariṣṭalīṅgādiṣu vranānām avranānām ca gandhaviśeṣāḥ praśnena ca vijñānīyād deśaṃ kālaṃ jātiṃ sātmyam ātaṅkasamutpattiṃ vedanāsamucchrāyaṃ balam antaragniṃ vātāmūtrapurīṣānām pravṛttiṃ apravṛttiṃ kālaprakarṣādīṃś ca viśeṣān | ātmasadr̥ṣeṣu vijñānābhyupāyeṣu tatsthānīyair jānīyāt || (SS Sū 10.5)*

*ātmasadr̥ṣeṣu* is glossed by Ḍalhaṇa as ‘*doṣasadr̥ṣeṣu*’ (similar to the *doṣa*).

to be grasped by the nose; itching, heaviness etc. are to be grasped through questioning.<sup>170</sup>

This description of how one should assess a patient based on the sense faculties relies on an assessment of physical attributes (*guṇas*) that we saw highlighted in Dr. Arun’s tactile observation of tissue qualities through hydro-dissection. The passage lists touch as second instead of last, and the process is elaborated upon. Instead of simply mentioning assessment of the normal or changed state of the body with the hand, as in the *Carakasamhitā*, the *Suśrutasaṃhitā* provides greater detail about assessment of the *guṇas* of coldness, heat, smoothness, roughness, softness, hardness, and additional attributes indicated by “etcetera.” About taste, the text specifies, “those to be examined by the taste sense-organ are particular kinds of tastes in reference to *prameha*, etc.” (*rasanendriyavijñeyāḥ pramehādiṣu rasaviśeśāḥ*). Recall that in the *Carakasamhitā Vimānasthāna* 4.7, it is explicitly stated that taste is not to be sensed directly by physicians but instead by inference based on the sense perceptions of intermediary non-human beings—dogs, crows, and insects. Here we find no such explicit restriction. In grappling with this statement, Ḍalhaṇa recapitulates the *Carakasamhitā* passage, stating that the physician himself is not to taste the urine, rather a louse is used as a proxy.

But the flavors in the case of *prameha* and so on, sweet, etc., are to be inferred by the physician through flies and ants, etc. approaching. So how is it said “(tastes) are to be inferred by the taste faculty”? Here, it is not the taste faculty of physicians but rather of ants, etc., [so] it is not an error.<sup>171</sup>

However, this is the commentator’s later interpretation and not what the text itself states. The *Suśrutasaṃhitā* passage does not exclude the possibility that the physician or a human intermediary tastes the urine. Meulenbeld supports this position in a note on this passage, stating, “Suśruta describes examination by means of the organs of taste and smell, whereas Caraka says that this type of information should be obtained by inference. Purity of the physician is of less concern to Suśruta.”<sup>172</sup> Contemporary physicians whom I asked about this stated that there was no extant tradition of physicians tasting urine, but one physician suggested that it was possible patients might have been instructed to taste their own urine to detect sweetness. Further, while the *Carakasamhitā* describes eight types of urine to be used medicinally—sheep, goat, cow, buffalo, elephant, camel, horse, and donkey (*Carakasamhitā Sū* 92–104)—the *Suśrutasaṃhitā*

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<sup>170</sup> *ātmasadrśeṣu doṣasadrśeṣu vijñānābhyupāyeṣu ṣaḍvidheṣu śrotratvakcakṣūrsanagrāṇaprasneṣu | tatra vātasadrśeṣu vijñānābhyupāyeṣu pañcendriyaprasneṣu vraṇe saśabdaphenaraktānilādinirgamanam śravaṇendriyagrāhyam pāruṣyarakṣyādikam tvagindriyagrāhyam bhasmakapotāsthisavarṇatvam cakṣurindriyagrāhyam kaṭugandhalājagandhāditvam ghrāṇendriyagrāhyam kaṣāyarasatvam rasanendriyagrāhyam todanabhedanacchedanādivedanāviśeśāḥ praśnagrāhyāḥ pittasadrśeṣu vijñānābhyupāyeṣu śvayathuvraṇādīnām auṣṇyam tvagindriyagrāhyam nīlapītavarnatvam cakṣurindriyagrāhyam kaṭvamlarasatvam rasanendriyagrāhyam tīkṣṇātasīgandhatvam ghrāṇendriyagrāhyam oṣacoṣaparidāhādīkā vedanāviśeśāḥ praśnagrāhyāḥ śleṣmasadrśeṣu vijñānābhyupāyeṣu snigdhapāicchilyādikam tvagindriyagrāhyam śvetatvam cakṣurindriyagrāhyam mādhyurādī rasanendriyagrāhyam visragandhāditvam ghrāṇendriyagrāhyam kaṇḍūgurutvādivedanāviśeśāḥ praśnagrāhyā iti | Suśrutasaṃhitā, 43.*

<sup>171</sup> *nanu pramehādiṣu rasā madhurādayo makṣikāpipīlākadyupasarpaṇena bhiṣagbhir anumeyāḥ tat katham rasanendriyavijñeyā iti ucyate nātra bhiṣajām rasanendriyam kiṃtu pipīlikādīnām ity adoṣaḥ |*

<sup>172</sup> Meulenbeld, *HIML*, 1B:323n108.

also mentions human urine as a treatment for poison.<sup>173</sup> This reflects a different position on the use of human urine in treatment than that of the *Carakasamhitā*, one that accords with the lack of a prohibition on tasting urine in the passage on diagnosis above. Given that the *Suśrutasamhitā* explicitly prescribes a “sixfold” examination, detailing tactile attributes, the diagnostic passage represents physicians practicing according to the *Suśrutasamhitā* as having greater sensory intimacy with patients. This is borne out in the passages on surgical treatment that we will now examine. However, the lack of concern with expressing a prohibition in this passage, in contrast to Caraka, suggests that surgical physicians may have had a different, more extensive, relationship to the senses in diagnosis.

### ***Diagnosis in the Aṣṭāṅgahr̥daya***

The *Aṣṭāṅgahr̥daya* is divided into six sections and the initial description of how a physician should examine a patient is found in the first chapter of the first section. This passage, *Aṣṭāṅgahr̥daya*, *Sūtrasthāna* 1.22, follows an exposition of the basic concepts of Ayurveda: the transmission of the teachings; an enumeration of the eight branches; a naming of the three *doṣas* with their respective primary locations (*sthānas*); times (*kālas*) (both season and time of day); relations to digestive fire (*agni*) and to the digestive tract (*koṣṭha*); an enumeration of the six tastes; a description of the types of substances and their *guṇas*; a discussion of the causes of disease and health; and definitions of physical and mental disease. Then the treatise turns to an examination for diagnosis:

One should examine the patient by means of seeing, touch, and questioning; and the disease, by primary cause,<sup>174</sup> premonitory symptom, symptom, suitability of food, medicine, and conduct (*upaśaya*),<sup>175</sup> and progression.<sup>176</sup>

The physician is instructed to use three senses: sight, touch, and hearing, to examine the patient and then to assess the disease through the sixfold method outlined in the second half of the verse. Implicit in questioning patients is listening to their answers through the sense of hearing and then using inference to process the information. According to this method as used by physicians I worked with in contemporary Kerala, diagnosis is often not a linear process or one-time event. Rather, it unfolds and repeats as the physician uses the threefold examination repeatedly to assess the effects of food, medicine, and lifestyle practices, and to observe the progression of disease in the patient, adjusting treatment accordingly.

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<sup>173</sup> *SS Sū* 55.228. Joseph Alter notes that this passage is ubiquitously cited in contemporary Indian auto-urine therapy books attempting to link this modern practice to classical Āyurvedic treatises. Alter, *Yoga in Modern India*, 187.

<sup>174</sup> The term *nidāna* is understood in this verse as one aspect of diagnosis, the examination of primary cause, or etiology. *Nidāna* can also be used to denote the entire diagnostic process, as in the title of the third section of the *Aṣṭāṅgahr̥daya*, the *Nidānasthāna*.

<sup>175</sup> As a method of Ayurvedic diagnosis, *upaśaya* (fr. *upa* √*śī*, “to be suitable or useful”) is a technical term referring to the wholesomeness of food, medicine, and conduct in the treatment of a disease. It is often coupled with *anupaśaya*, referring to unwholesomeness in relation to a disease.

<sup>176</sup> *darśanasparśanaprasnaih parikṣeta ca roginam | rogam nidānaprāgrūpalakṣaṇopaśayāptibhiḥ || Aṣṭāṅgahr̥daya*, *Sūtrasthāna* 1.22. In the *Nidānasthāna* we find the term *saṃprāpti*, which is usually translated as “pathogenesis,” so here *āpti* is understood as the progression of the disease through different pathways to various locations.

In his *Sarvāṅgasundarā*, thirteenth-century commentator Aruṇadatta explains the physician’s experience of diagnosis as centrally concerned with assessing the *guṇas* and therefore reliant upon the senses.<sup>177</sup> As G. Ashokan notes in his discussion of sensory perception in the *Carakasamhitā*, “In cognizing an object all that is directly known by the senses is its qualities.”<sup>178</sup> The *guṇas* are central to the assessment conducted by the physician and in terms of considering the proximate causes of disease (*nidāna*), as evident in Aruṇadatta’s explanatory gloss of *Sūtrasthāna* 1.22, which draws heavily upon *Aṣṭāṅgasamgraha Sūtrasthāna* 22.11.

“The patient” is one who has a disease, one possessing illness. [The physician] should examine [the patient] by means of seeing, etc. “By seeing” [means] by sight, [one should examine], with respect to those sick with cough, urinary disorder, etc., yellow and white color, form, measurement, accumulation, shade, feces, urine, vomit, etc.<sup>179</sup> “By touching” [means] by touching of the body by the hand, one who is sick with fever, a mass or abscess, etc., and also [he should examine] touch/sensation (*sparśa*) of coldness, heat, stiffness, throbbing, softness and roughness, etc. And “by questioning” [means] by asking, he should examine via the articulation of the patient the state of pain, loss of appetite, vomiting, heart palpitation, positive or negative attitude, soft or hard stools, dreams, intention, constellations during the onset of disease and at birth, aversion, inclination, happiness, and sorrow.<sup>180</sup> He should examine the disease with those five, primary cause (*nidāna*), etc.<sup>181</sup> “*Nidāna*,” “*kāraṇa*,” [and] “*hetu*” are synonyms of cause (*nidāna*). And this [cause] is twofold divided into proximate and distant. Proximate cause is also twofold, close and very close. Close [acts] by the usage of substances that are rough, light, cold, etc. But that which is very close causes disease immediately. In such a way, the *doṣas*, *vāta*, etc., are increased.<sup>182</sup>

<sup>177</sup> Meulenbeld *HIML*, 3:662–664.

<sup>178</sup> Ashokan is translating *guṇas* as “qualities.” Ashokan, *Philosophy of Carakasamhitā*, 203.

<sup>179</sup> In this passage, yellow and white color (*varṇa*) refer specifically to the hue of bodily constituents and products, whereas shade (*chāya*) is a designation including sets of five qualities attributed to each of the five elements. For example, complexion related to earth is firm (*sthira*), oily (*snigdha*), thick (*ghana*), smooth (*ślakṣṇa*), brown (*śyāma*), and white (*śveta*) (*Carakasamhitā*, *Indriyasthāna* 7.10–13 and *Aṣṭāṅgahrdaya Śārīrasthāna* 5.48).

<sup>180</sup> Aruṇadatta lists *nakṣatras* (constellation or asterism) at the time of onset of the disease or at the time of birth as possible astrological causes of disease to be examined through questioning the patient. Much of his commentary on this section is derived from *Aṣṭāṅgasamgraha Sūtrasthāna* 22.11. Due to the unclear meaning of *janmāmayapravṛttinakṣatra*, which is not glossed in Indu’s commentary, my interpretation of this phrase has followed the translation of *Aṣṭāṅgasamgraha Sūtrasthāna* 22.11 offered by K. R. Shrikanthamurthy 1:405. In other editions this passage is listed as 22.23. See *Aṣṭāṅgasamgrahaḥ of Vāhaṭa*; Meulenbeld, *HIML*, 1A:500.

<sup>181</sup> This refers to the set of five diagnostic methods mentioned in *Aṣṭāṅgahrdaya*, *Sūtrasthāna* 1.22, *nidāna*, *prāgrūpa*, *lakṣaṇa*, *upaśaya*, and *āpti*.

<sup>182</sup> Note that the whereas the “close” proximate cause acts on one or two properties (*guṇas*), the very close proximate cause acts on a constellation of properties (*guṇas*) in the form of a *doṣa*.

*rogo ’syāstīti rogī vyādhitaḥ taṃ darśanādibhiḥ parīkṣeta | darśanena dṛṣṭyā kāsamehādyaṛteṣu pītaśuklavarnasamsthānapramāṇopacayacchāyāviṇmūtraccharditādikam | sparśanena hastakāyasparsēna jvaragulmavidradhyādyārtam tathā śītoṣṇastabdhaspandaślakṣṇakharasparśādikam ca | praśnena pṛcchayā śūlārocacchardihṛdardatvaṃ succhandaduśchandatvaṃ mṛdukrūrakoṣṭhatām svapnadarśanam abhiprāyaṃ janmāmayapravṛttinakṣatradviṣṭeṣṭasukhaduḥkhāni ca ityāturamukhāt*

Here, Aruṇadatta emphasizes the importance of the physician’s examination of the *guṇas*, such as “coldness, heat, stiffness, throbbing, softness, and roughness,” particularly in reference to touch (*sparśa*). Physicians also indirectly examine *guṇas* through questioning the patient, for example, when assessing the texture of the stool. In his explanation of the distinction between “close” and “very close” proximate causes of disease, Aruṇadatta also highlights the *guṇas*, explaining that in the case of a “close cause,” the disease is caused by one or two *guṇas* interacting via substances coming into contact with the patient. In the case of a “very close” cause, an entire constellation of *guṇas*, in the form of a *doṣa*, is increased.

In the *Aṣṭāṅgahrdaya Nidānasthāna*, diagnosis is focused on the fivefold method given in the second half of *Sūtrasthāna* 1.22, translated above. The *Nidānasthāna* comprises sixteen chapters: an introduction outlining the fivefold method, followed by subsequent chapters explaining the diagnosis of one or more types of illness. The *doṣas* play a central role in the explanation of diagnosis given in this section of the *Aṣṭāṅgahrdaya* as each discussion of the symptoms of diseases (*liṅgas* or *rūpas*) describes the symptoms of diseases arising from *vāta*, *pitta*, *kapha*, and from all three together (*saṃnipāta*). In the case of fever (*jvara*), further variations are given in the form of combinations of two *doṣas*. For a number of illnesses, symptoms arising from other causes are also listed; for example, in the discussion of hemorrhoids (*arśas*), the symptoms caused by vitiated blood (*rakta*) are detailed. Although the *Nidānasthānas* of all three treatises are organized by type of disease, it is not enough to recognize and name the disease; the physician must understand the underlying causes of the disease in order to diagnose and formulate a treatment.

### ***Considering Chronology***

Apart from the differences between the general and surgical schools, these passages may evidence a reduction, over the course of time, in the number of senses that the physician was expected to use in the course of diagnosis from four to three. *Carakasamhitā Vimānasthāna* chapter 4 instructs the physician to use all of his senses with the exception of taste (*rasa*) because for something to be tasted, it must enter the taster’s body. Rather, the patient’s taste is inferred through the behavior of insects based on their taste faculties. In the *Carakasamhitā*, *Cikitsāsthāna* 25.22 and the *Aṣṭāṅgahrdaya Sūtrasthāna* 1.22, we find only the senses of seeing, touch, and hearing prescribed as diagnostic tools, leaving aside both taste and smell. As noted earlier, *Carakasamhitā Cikitsāsthāna* 25.22 is found in a section of the *Carakasamhitā* that may have been written by Dṛḍhabala in the fourth or fifth century, and the *Aṣṭāṅgahrdaya* was written in the seventh century. The removal of smell from the list in the later passages perhaps reflects an increasing sensitivity to the boundaries of the physician’s body in the course of diagnostic practice. As Dominik Wujastyk writes,

It may be that as the caste system grew in rigidity through the first millennium AD, taboos concerning physical contact became almost insurmountable and *vaidyas* seeking to enhance their status may have resisted therapies that involved intimate physical contact

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*parīkṣeta* | *rogaṃ nidānādibhiḥ pañcabhiḥ parīkṣeta* | *nidānaṃ kāraṇaṃ hetur ityanarthāntaram* | *tac cāsannaviprakṣṭabhedena dvidhā* | *āsannaṃ api dvividham āsannātyāsannabhedena* | *āsannaṃ rūkṣalaghuśītādidravayopayogaḥ* | *atyāsannaṃ tu yataḥ samanantaram eva rogotpattiḥ* | *yathā vātādayo doṣāḥ kruddhāḥ* || *Aṣṭāṅgahrdaya*, 14.

with the patient or cutting into the body. On the other hand, against this hypothesis it may be argued that the examination of the pulse and urine gained in popularity, as did massage therapies.<sup>183</sup>

As we have seen, in *Suśrutasaṃhitā Sūtrasthāna* 10.5, a sixfold method of diagnosis via the five sense organs (*srotas*) and questioning (*praśna*) is given, in explicit contrast to the threefold method. If we follow Meulenbeld rather than Ḍalhaṇa, this complicates a chronological hypothesis because the *Suśrutasaṃhitā* predates Vāgbhata's compendia, but it supports the possibility that surgical physicians may have had distinct social status and a different relationship to the senses in diagnosis.

### **Part Three: “Sensory Mediation”**

Physicians' sense faculties play a key role in Āyurvedic diagnosis particularly in the assessment of the *guṇas*, or attributes. But we have seen, certain forms of sensory contact with a patient may constitute a problem for the physician. This concluding section presents two case studies of what I am calling *sensory mediation*, a practice that mitigates contact between the patient and physician. In these cases, other humans or non-human animals mediate between the physician and the substance, person, and/or attributes being assessed. Thus far we have focused primarily on a consideration of the physician's physical engagement in diagnosis in their interaction with the patient in order to contrast the general and surgical strands of medicine. That inquiry threads into this section as we look at the implications of the different ways blood is described and assessed in the *Carakasamhitā* and *Suśrutasaṃhitā*. But this section also considers cases when a physician is specifically instructed not to taste or touch a patient or their bodily fluids, but rather to rely upon the senses of another. This examination sensory mediation widens our vision of medical practice with expanded cast of players, raising questions of trained touch and expertise that I will address in Chapter Four. Here, I present two brief case studies of sensory mediation. The first is focused on sensing blood, engaging with the problem of taste as it relates to assessment of both blood and urine, and continuing our contrast of diagnostics in the *Carakasamhitā* and *Suśrutasaṃhitā*. The second examines instances in the *Carakasamhitā Indriyasthāna* where the physician is instructed to perform a touch-based assessment via the hand of another person. These passages may provide evidence to the contrary of Dominik Wujastyk's statement that “although the caste system was fundamentally a social expression of the purity-pollution gradient, these ritual concepts did not influence and were apparently not influenced by, medical thinking.”<sup>184</sup> I suggest that in these examples, we find concerns with purity-pollution contiguous with larger cultural patterns.

#### ***Sensing Blood***

Blood, *rakta*, *śoṇita* or *asṛj*, is a substance of central importance to classical Āyurvedic understandings of the body and illness. Blood as a bodily constituent (*dhātu*) seeps and flows bearing life, it accumulates and aggravates causing illness, and blood is an important source of diagnostic information for a physician. But, if in the great chain of being one is either the eaten or the eater, then blood is also the enticement to human flesh that renders us as food. Francis Zimmerman argues that early Āyurvedic treatises' classifications of living beings fundamentally

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<sup>183</sup> Wujastyk, *Roots of Ayurveda*, 66.

<sup>184</sup> Wujastyk, *Contagion*, xiii.

express a “sequence of foods,” emphasizing humans’ place at the apex: “Man is first, the rest are at his service (*tatra puruṣaḥ pradhānaṃ tasyopakaraṇam anyat*).”<sup>185</sup> However, it is in interactions with human blood as food that we find a cast of non-human beings as medical actants in Āyurvedic medicine. I suggest that the intimacy of sensing blood, particularly of tasting and touching blood, invites, and even necessitates, the presence and agentive sensory participation of non-human animals in diagnosis.

Blood is understood through a combination of the *pramāṇas* examined above, with the same priorities of authoritative teaching (*Carakasamhitā*) and sensory perception (*Suśrutasamhitā*) that we saw earlier. The attributes (*guṇas*) of both pure/unspoiled blood (*viśuddha/aduṣṭa-śoṇita/-rakta*) and impure/spoiled blood (*duṣṭa-śoṇita/-rakta*) are described by the treatises, and thus are established through authoritative teaching. Although it appears that the attributes listed for pure/unspoiled blood pertain to blood inside of the human body, some of them, for example the smell of the blood, can only be discerned when blood has exited the body (whether through illness or injury or through physicians’ practice of bloodletting). To assess these attributes in a patient, physicians use sensory perception—seeing, hearing, smelling, touching, and tasting. But blood, when it is matter out of place, poses a problem of potentially polluting contact to other human bodies.

The *Mānavadharmasāstra*, a second- or third-century South Asian Brahmanical law code, includes physicians in a lengthy description of people unfit to eat with at the monthly *śrāddha* ritual offering to the ancestors:

What is given to a physician turns into pus and blood; what is given to a temple priest perishes; what is given to a usurer lacks stability.... The wise declare that the food given to other evil men enumerated above, men alongside whom it is unfit to eat, turn into fat, blood, flesh, marrow, and bone.<sup>186</sup>

Pus and blood are given, here, in functional equivalence to one another in relation to the physician. External contact with either or both substances results in a state of ritual impurity. Although pus, as discharge from a wound, and blood, as a bodily constituent (*dhātu*), differ categorically according to Āyurvedic classificatory schemes, when either substance leaves their host’s body they both become potentially polluting substances. So, in the *śrāddha* ceremony, when food is offered to physicians it is understood to become equivalent to pus and blood, and as such, it feeds demonic beings instead of the intended ancestors.<sup>187</sup> Here, the cycle of feeding is redirected by the ritual unsuitability of the physician. It is in the problem of their contact with such substances, as well as in the practice—in some cases—of charging a fee for their services, that physician’s social status in early India was complicated, as discussed above.

Given this concern for bodily boundaries, how can a physician know the taste of a patient’s blood? As we have seen in the prior section, it must be inferred. From the tongue of a dog and the beak of a crow to the tripartite jaws of a sanguineous leech, blood is tasted, sensed, and translated by non-human beings who—in the course of feeding—act as sensory mediators for physicians.

<sup>185</sup> Zimmerman, *The Jungle and the Aroma of Meats*, 203. Here, he cites *Suśrutasamhitā Sūtrasthana* 1.22.

<sup>186</sup> *Mānavadharmasāstra* 3.180–182; Olivelle, *Manu's Code of Law*, 117.

<sup>187</sup> In earlier Dharmasūtras (Āpastamba) it is emphasized that one should neither give food to a physician at a ritual event, nor accept food from a physician. Olivelle. “The Medical Profession in Ancient India,” 2.



In order to recognize and treat spoiled blood one must know the properties of unspoiled blood. However, there are ambiguities regarding the ontological status of blood across the classical treatises in terms of both its classification and its attributes. The *Carakasamhitā* and *Suśrutasaṃhitā* describe blood (*rakta/śoṇita/asrj*) as the second of seven bodily constituents (*dhātus*) formed as by-products of the metabolism of food.<sup>188</sup> After chyle, *rasa* is formed from food and drink, a portion of *rasa* mixes with *pitta* in the liver and spleen (*yakṛtsplīha*) becoming *rakta*, blood, which in turn is metabolized into flesh (*māṃsa*), fat (*medas*), bone (*asthi*), marrow (*majjan*), and reproductive tissue (*śukra*).<sup>189</sup> Another portion of *rasa*, not proceeding in the metabolic chain, becomes menstrual blood.

In some passages of the *Suśrutasaṃhitā*, however, for example, *Sūtrasthāna* chapter 21 on wounds (*vraṇas*), blood is not only described as a bodily constituent (*dhātu*) but it is also described as a fourth *doṣa*.<sup>190</sup> Jan Meulenbeld has argued that an emphasis on *tridoṣa* theory may be a later development in classical Āyurvedic nosology, which in its earlier strata emphasized the bodily constituents (*dhātus*).<sup>191</sup> He identifies five notions of blood across the classical treatises of the early to mid-first millennium, all of them locating blood somewhere on the spectrum of blood as *dhātu* and blood as *doṣa*. I suggest that representations of blood as *doṣa* in the *Suśrutasaṃhitā* are also attendant to the treatise’s surgical focus, emphasizing bloodletting and physicians’ interactions with blood.<sup>192</sup>

The idea that this ambiguous, or perhaps—in Annamarie Mol’s terms—“multiple,” ontological status of blood is related to different ways of knowing and sensing the body, is supported by differences in descriptions of the attributes of pure/unspoiled blood in the *Carakasamhitā* and *Suśrutasaṃhitā*.<sup>193</sup> These differences in assessment of blood in the treatises further support the chapter’s central argument regarding substantive differences in the embodied practice of surgical and general medicine.

After describing diseases of the blood and the characteristics of blood vitiated by the *doṣas* alone and in combination, *Carakasamhitā Sūtrasthāna* 24.22 describes pure blood as “having the appearance of ‘gold heated by fire’ (*tapanīya*),<sup>194</sup> a fire-fly (*indragopa*), (red?) lotus (*padma*), and red lac (*alaktaka*), and with the color of *guñja* fruit.” This comparative description focused on the appearance of a red-hued luminosity, renders a physical distance between the physician and observed blood mediated by vision alone. In a subsequent passage, the characteristics of a person with pure blood are also described:

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<sup>188</sup> *CS Ci* 15, *SS Sū* 14.4–10

<sup>189</sup> *SS Sū* 21.16

<sup>190</sup> *SS Sū* 21.3, 16–18

<sup>191</sup> Also, see Natalie Köhle’s work arguing that bile (*pitta*) and phlegm (*śleṣman/kapha*) appear in the early strata of the *SS* as digestive fluids, predating tri-humoral (*tridoṣa*) theory. Köhle, “A Confluence of Humors.”

<sup>192</sup> This is evidenced by the prominent place given to these topics in chapters thirteen and fourteen of the *Suśrutasaṃhitā Sūtrasthāna*, addressing *jalaukāvacāraṇa* and the nature of blood/other forms of bloodletting, respectively.

<sup>193</sup> Mol, *The Body Multiple*.

<sup>194</sup> Monier-Williams gives “gold heated by fire” as a meaning for “*tapanīya*.”

They say a person having pure blood has clear complexion and sense faculties, desire for objects of the senses, unimpeded digestive strength and evacuation, happiness and is endowed with contentment and strength.<sup>195</sup>

According to Cakrapāṇidatta, this verse is given so that one can know the characteristics of the blood immediately, even without seeing it.<sup>196</sup> Here the authoritative teaching offered by the treatise, in combination with an assessment made through visual observation and questioning the patient, enables the physician to infer the unspoiled nature of blood inside of their body.

In contrast, descriptions of unspoiled blood given in the *Suśrutasamhitā* indicate a greater sensory intimacy with blood on the part of the physician. In the context of a chapter describing blood and bloodletting, *Suśrutasamhitā Sūtrasthāna* 14.9 explains that some scholars understand blood as comprised of all five elements (earth, water, fire, air, space): “as such, musty odor, fluidity, redness, vibration, lightness, the attributes of earth, etc., indeed, these attributes are seen here in blood.”<sup>197</sup> Whereas some of the elemental attributes might be seen or felt through the skin, others, certainly the “musty odor,” suggest the observation of blood outside of the body. In a general chapter on bloodletting, found later in the surgical treatise (*Suśrutasamhitā Sū* 21.17), blood is described again in a manner requiring multiple sensory engagements for assessment: “Blood should be neither hot nor cold, sweet, unctuous, and red colored, heavy, musty smelling, and it burns like *pitta*.”<sup>198</sup> This chapter represents blood as a *doṣa* and non-spoiled blood is described as heavy rather than light, perhaps to reflect its potential for pathological accumulation. In this description of blood assessment, attributes related to all of the senses are mentioned, except for hearing. However, we can also understand that the sweet taste is to be inferred.

Although in the *Suśrutasamhitā*'s sixfold examination passage that we examined earlier, taste, in the case of urine, is not explicitly mediated, there are passages elsewhere in the treatise indicating that the flavor of blood is to be inferred. We find mention of insects observed in response to blood in the *Suśrutasamhitā Sū* 14.21, a passage describing the qualities of blood afflicted by each of the *doṣas* alone and in combination. *Pitta*-vitiated blood is described as follows: “And [blood vitiated] by *pitta*, blue, yellow, green, dark-colored, musty smelling (*visra*), undesired by ants and flies, non-coagulating.”<sup>199</sup> It is unclear whether the dislike by ants and flies refers to the taste, smell, or—more than likely—a combination of the two. *Visra* (musty-smelling) is one of the identifying attributes of *pitta*, and also of healthy blood (as in the examples above). This use of the same term to describe the smell of *pitta*, *pitta*-afflicted blood, and healthy blood seems to indicate that, for a human, the smell in these three cases might be indistinguishable. This helps clarify the necessity of sensory mediation by a being with the capacity to distinguish the magnified odor of *pitta*-afflicted blood and its attendant inedibility.

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<sup>195</sup> *prasannavarṇendriyam indriyārthān icchantam avyāhatapaktṛvegam | sukhānviṭam tu(pu)ṣṭibalopapannaṃ viśuddharaktaṃ puruṣaṃ vadanti || (CS Sū 24.24)*

<sup>196</sup> *samprati śoṇitādarśanenāpi viśuddharaktajñānārthaṃ lakṣaṇam āha prasannetyādi | Carakasamhitā, 125.*

<sup>197</sup> *visratā dravatā rāgaḥ spandanaṃ laghutā tathā | bhūmyādīnām guṇā hy ete drśyante cātra śoṇite || (SS Sū 14.9)*

<sup>198</sup> *anuṣṇāsītam madhuraṃ snigdham raktam ca varṇataḥ | śoṇitam guru visraṃ syad vidāhaś cāsya pittavat || (SS Sū 21.17)*

<sup>199</sup> *nīlaṃ pītaṃ haritaṃ śyāvaṃ visram aniṣṭam pipīlikāmakṣikāṅṇām askandi ca pittena duṣṭam || (SS Sū 14.21)*

Regardless, these passages indicate the importance of the surgical physician assessing blood that they have observed using their senses—blood that is outside of the patient’s body.

But we are left wondering—how would these animals have come across the patient’s blood in the first place? In his gloss on the *Carakasamhitā Vimānasthāna* 4.7 translated above, Cakrapāṇidatta explains healthy blood, *dhārilohitaṃ*, as *jīvaśoṇitaṃ*, in the sense of vital or healthy blood, and “bile-in-the-blood,” *lohitapittaṃ*, as *pittadustaṃ*, blood “corrupted by *pitta*” in the sense of *raktapittaṃ*, or “*pitta* in the blood.” *Raktapitta* is a condition characterized by profuse bleeding through bodily orifices.<sup>200</sup> So, according to the passage, in the case of a person bleeding, the physician is instructed to distinguish a wound from a life-threatening bleeding disorder through observation of whether their blood is appetizing to dogs and crows. Although we might imagine this spilled blood as spontaneously attracting scavengers, an intriguing passage from a later section of the *Suśrutasaṃhitā* provides another possible scenario. Two full chapters of the *Carakasamhitā* and one of the *Suśrutasaṃhitā* are dedicated to the etiology, diagnosis and treatment of *raktapitta*. But it is in the context of a passage in a chapter describing adverse reactions to the cleansing procedures of emesis (*vamana*) and purgation (*virecana*), in the surgical treatise, that we find the following instruction in the *Suśrutasaṃhitā Cikitsāsthāna* 34.14:

For the purpose of a test of *jīvaśoṇita* and *raktapitta* one should place cotton or cloth in that [blood]. If, even washed with hot water, the fabric is colored, that should be understood as life-bearing blood (*jīvaśoṇita*). Or, coarsely ground meal mixed with food should be given to a dog. And if [the dog] eats [it], that should be understood as life-bearing blood (*jīvaśoṇita*). Otherwise, it is *raktapitta*.<sup>201</sup>

This passage, in which human blood is intentionally rendered as food, indicates, once again, that there is a particular quality of spilled blood that can only be sensed by its palatability by dogs and crows. However, it also shows the surgical practitioner, or possibly their assistant or servant, in an intimate contact with blood in the process of cloth-dipping or food-mixing.

### ***Prognostics and Purity in the Carakasamhitā Indriyasthāna***

Finally, we turn to mediated touch as it is used in the prognostic section of the *Indriyasthāna* of the *Carakasamhitā*. This section of the treatise examines the signs of impending death, and details how the physician should use their own senses to examine the sense faculties of the patient to determine whether they will die soon. Possessing the ability to diagnose a patient’s imminent death is critical, as this patient should prudently not be treated.<sup>202</sup> The senses of both the physician and the patient play a key role in this diagnostic process. According to

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<sup>200</sup> Two full chapters in the *Carakasamhitā* are dedicated to this disease which is compared in both chapters as spreading quickly in the patient like fire, *CS Ni 2* and *CS Ci 4*, as well as *Uttaratantra* 45 in the *Suśrutasaṃhitā*.

<sup>201</sup> *jīvaśoṇitaraktapittayoś ca jijñāsārthaṃ tasmin picuṃ plotam vā kṣipet yady uṣṇodakaprakṣālitam api vastram rañjayati taj jīvaśoṇitam avagantavyam sabhaktam ca śune dadāc chaktusaṃmiśram vā sa yady upabhuñjīta taj jīvaśoṇitam avagantavyam || (SS Ci 34.14)*

<sup>202</sup> In her discussion of the “four pillars” of ayurvedic treatment, the physician, the medicine, the attendant and the patient, Dagmar Wujastyk treats at length the types of patients that should and should not be treated so I will not address that here, but note that a physician is not to treat someone about to die nor a patient who is unable to afford treatment. See Wujastyk, *Well-Mannered Medicine*, 51–59.

*Indriyasthāna* 1.3, the physician evaluates the patient based on a list of forty-seven factors ranging from coloration (*varṇa*), form (*ākṛti*), dryness (*rauḥṣya*), premonitory symptoms of the disease (*vyādhipūrvarūpa*), and dreams (*svapnadarśana*), to finally, application of counteracting medicines (*bheṣakavikārayukti*). The first ten factors listed instruct the physician to use each of his senses in turn, beginning with sight and ending with touch, to examine “coloration, sound, scent, flavor, and touch.”<sup>203</sup> Then the physician is to examine the patient’s sense faculties of “sight, hearing, smelling, tasting, and touching.”<sup>204</sup> A number of other factors in the list also evoke touch and the attributes it senses, such as dryness (*rauḥṣya*) and unctuousness (*sneha*). Over the course of the twelve chapters of the *Indriyasthāna*, each of the factors is fleshed out in order—chapter one beginning with the enumeration followed by a discussion of coloration and sound/voice, chapter two describing how the physician is to use his sense of smell to evaluate the patient’s odor, and chapter three, describing an assessment of the patient via touch.

Chapter 3 of the *Indriyasthāna*, on the use of touch to discern the signs of imminent death, provides us with a suggestive example of sensory mediation by another human:

Through the predominance of touch (*sparsāpradhanyena*),<sup>205</sup> one desiring to know the remaining lifespan of a patient should touch his entire body with an unimpaired/normal hand. Or one should cause another person to touch (*vā parimarśayet ’nyena*). And further, the one touching the body of the sick person should perceive these states wherever they arise, for instance: the non-pulsing of the constantly pulsing places on the body; the chilling of always warm [places on the body]; the hardness of soft [places]; the roughness of smooth [places]; the non-existence of things that [should] exist; the loosening, slipping, and shaking of the joints; the wasting of the flesh and blood; intensity or blockage in relation to sweat; and also whichever other similar, causeless, extremely unusual symptom related to sensations/touches might exist. Thus, the symptom(s) belonging to tactile states are summarily described.<sup>206</sup>

Here, the treatise instructs the physician in some cases to cause another person to touch the patient: “One desiring to know the remaining lifespan of a patient should touch his entire body with unimpaired hand. Or one should cause another person to touch.” The diagnostic touch subsequently described is oriented towards contrast or abnormality—“the non-pulsing of the constantly pulsing places on the body; the chilling of always warm [places on the body]; the hardness of soft [places]”—etc.<sup>207</sup> The physician is instructed to touch only with a hand that is unimpaired, or normal (*prakṛtistha*). So, one possible reason for the physician instructing another

<sup>203</sup> *varṇaś ca svaraś ca gandhaś ca rasaś ca sparśaś ca ... (CS In 1.3)*

<sup>204</sup> *caḥṣuś ca śrotram ca ghrāṇaṃ ca rasanāṃ ca sparśanaṃ ca ... (CS In 1.3)*

<sup>205</sup> An alternate reading of *sparsāprāmāṇyena* “by the measure of touch” is given.

<sup>206</sup> *sparsāprādhānyenaivāturasyaṅyusaḥ pramāṇāvaśeṣaṃ jijñāsuḥ prakṛtisthena pāṇinā śarīramasya kevalaṃ sprśet parimarśayed vā ’nyena | parimṛśatā tu khalvāturaśarīram ime bhāvās tatra tatrāvaboddhavyā bhavanti | tadyathā satataṃ spandamānānāṃ śarīradeśānāṃ aspandanāṃ nityoṣmaṇāṃ śītībhāvaḥ mṛdūnāṃ dāruṇatvaṃ ślakṣṇānāṃ kharatvaṃ satām asadbhāvaḥ sandhīnāṃ sraṃsabhraṃśacyavanāni māṃsaṣoṇitayor vītibhāvaḥ dāruṇatvaṃ svedānubandhaḥ stambho vā yac cānyad api kiñcid idrśaṃ sparśānāṃ lakṣaṇaṃ bhrśavikṛtam animittam syāt | iti lakṣaṇaṃ sprśyānāṃ bhāvānāṃ uktaṃ samāseṇa || (CS In 3.4)*

<sup>207</sup> Here, we find a mention of the presence or absence of pulsation as a diagnostic tool, but not the nuanced system of wrist pulse diagnosis that enters into the stream of Āyurvedic teachings much later.

person to touch the patient is that their own hand is not suitable for the task because it is impaired. However, Cakrapāṇidatta's gloss on the passage indicates that there are some patients whom it is socially improper for a physician to touch. In lieu of direct contact, they are advised to touch through a mediator. Cakrapāṇidatta explains the meaning of *vā anyena*, "Or by another," as follows: "Or he should cause another to touch [the patient], means, that when touch is not to be employed with regards to those beginning with his own guru's wife, then he explains what is to be done."<sup>208</sup> The taboo against touching, and specifically against having sex with the guru's wife is found in a number of texts delineating proper behavior for a student.<sup>209</sup> However it is not only the guru's wife who is suggested here as the term is made into a compound ending with *ādeḥ*, meaning "of/with regards to those beginning with," indicating that there is a list of people who follow the guru's wife as untouchable for the physician. It is not clear whether this list is only gender inflected, or whether this also implies an issue around touch and *varṇa*, or other social axes. Further, given that the treatise's authors expend much effort delineating the qualities of a credible physician and his authority in diagnostics and treatment prescription, what does it mean that the diagnostic touch can be mediated "by another"? This instance of sensory mediation also raises questions about the model of disciplined perception offered in the *Carakasamhitā*. We will return to these questions of expertise in Chapter Four.

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<sup>208</sup> *gurudārādeḥ svayaṃ sparśo yadā na yujyate tadā kartavyamāha parimarśayetvā 'nyeneti ... | Carakasamhitā*, 358.

<sup>209</sup> Foremost, in *Mānavadharmasāstra* 11.59, *gurutalpa*, or having sex with a guru's wife (lit. teacher's bed), is listed as one of the "grievous sins causing loss of caste." See Olivelle, *Manu's Code of Law*, 846.

## CHAPTER THREE

### Touch Between Omniscience and Objectivity: Sensory Negotiation in Contemporary Āyurvedic Diagnosis in Kerala

The roads in Kerala are notoriously sinuous. “As soon as you cross into Tamil Nadu,” Dr. B. asserted, “the roads become straight. They have real highways.” He honked and swerved, narrowly missing both a pedestrian and an oncoming red KSRTC bus dangerously out of its lane. As we rounded the next curve, I glimpsed the bleeding trees. Each slender trunk was sliced on a spiral axis and dripping white into a small collection container. “Rubber, all rubber,” he gestured at the monoculture. “They say this is God’s Own Country, but it’s the Devil’s Own Country. All the forests were made into rubber plantations.” Dr. B, an Āyurvedic physician in his late twenties who comes from a family of Āyurvedic practitioners in central Kerala, resumed explaining his relationship to his father’s practice and to the broader landscape of contemporary medical practice in Kerala today: “[Our] personal practice is the same—the major difference—I had a little more exposure to the modern world so ... not using modern diagnostic techniques, but little concepts I’ll share with this modern world.” He emphasizes that like his father, he does not appropriate “modern” diagnostic techniques, however, he does share aspects of Āyurveda with the “modern world.”

While physicians are frequently faced with laboratory test results and diagnostic imaging in the course of patient consultations, some find this troublesome, not only in relationship to their ideals around the practice of Āyurveda, but also in their experience of their own bodies and diagnostic sensory capacities. As we wound our way through kilometer after kilometer of rubber plantations, Dr. B. continued:

For each thing there is a domestic and a wild version, the buffalo, the elephant [the list included several more examples], but not the duck. Each and everything is domesticated and wild. There are not wild ducks, domesticated only. Is it not? The same thing happens to humans. You are using CT. You are using MRI. You are losing your power. The same thing is happening with antibiotics. You give antibiotics, your immune system won’t get a chance to do the work and develop. The same is true of digestive enzymes, your enzymes won’t be produced in your stomach.

After revealing his anxiety about losing his power of perception through domestication, he revealed a tension in his position. “We have MRI. We have CT scan. We know what is happening in the body. In Āyurveda we have [had] this system for three thousand years, yes, with no upgrading. Because of egos humans are losing.” Dr. B. is simultaneously concerned with losing his capacity to sense and also with the present practice of Āyurvedic medicine and what might be lost by not “upgrading,” in the sense of adapting Āyurveda in a manner that retains its unique capacities while evolving in its encounters with “modern” medicine.<sup>1</sup>

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<sup>1</sup> In this chapter, I use the terms “modern medicine” and “allopathic medicine” to describe what Charles Leslie called “cosmopolitan medicine” and what Dominik Wujastyk calls “modern establishment medicine,” because these are the terms most widely used by the physicians I worked with. The prevalent use of the label “modern medicine” reveals a tension in the way that practitioners of Āyurveda perceive their relationship to this “traditional” form of medicine as they negotiate its practice and existence in the “modern” world. See Leslie, “The Ambiguities of Medical Revivalism in Modern India”; Wujastyk, “Medical Error and Medical Truth.”

Drawing together textual and ethnographic research, this chapter examines how some contemporary Āyurvedic physicians practicing in Kerala, like Dr. B., describe their sensory diagnostic abilities in relation to diagnostic techniques of the past and present.<sup>2</sup> These physicians are engaged in what I call a *sensory negotiation*, first, with diagnostic theory and practice as explained in classical Āyurvedic medical treatises, and second, with contemporary diagnostic technologies that are understood to both extend and attenuate sensory perception.<sup>3</sup> In the course of my textual research, a number of Āyurvedic physicians explained their own capacity for sensory perception as limited in relation to the authoritative teaching of the treatises and the idealized sensory capacities of authoritative individuals (*āptas*). Most often these authoritative individuals were imagined as residing in the past. In some cases, however, they were located in the present and understood to possess special sensory capacities due to lifestyle and practices that expand their ability to perceive. Their experiences of inhabiting a present informed by the authority of Āyurveda's textually codified past and in an evolving relationship with contemporary diagnostic technologies instantiate a larger narrative I repeatedly encountered, namely that in India, Āyurveda is in a state of crisis. At the same time, physicians skillfully navigated the process of diagnosis, confidently navigating epistemological complexities in their day-to-day practice of Āyurvedic medicine.

An epistemological framework for classical Āyurvedic medicine found in the *Carakasamhitā*, as discussed in detail in the previous chapter, includes four means of valid knowledge, or *pramāṇas*: authoritative teaching (*āptopadeśa*), sensory perception (*pratyakṣa*), inference (*anumāna*), and reasoning (*yukti*).<sup>4</sup> According to this scheme, authoritative teaching is an epistemological foundation of the medical system and is closely linked to the authoritative status of classical Āyurvedic treatises themselves.<sup>5</sup> For Āyurvedic physicians as represented in the classical treatises, the experience of diagnosing illnesses also relies upon sensory perception

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<sup>2</sup> All of the physicians whom I interviewed were institutionally educated and had earned a BAMS degree but some of them had also experienced the traditional *gurukula* style education of living and studying with a teacher. The two physicians who were trained in a non-hereditary *guru*-lineage were both Nambuthiri Brahmins. None of the physicians I interviewed for this chapter were from an Aṣṭavaidya family, a tradition of eighteen Brahmin families in Kerala known for their practice of the eight (*aṣṭan*) branches of Āyurveda according to the *Aṣṭāṅgahrdayam*. For a detailed study of these lineages, as well as other hereditary medical practices across caste and religious axes in Kerala, see Menon, *Hereditary Physicians of Kerala*. At present, there are five practicing Aṣṭavaidya lineages. In the past, these practitioners, as well as the lineage of Vaidyamadhan Nambuthiri Brahmin physicians, would likely not have themselves touched patients from lower castes, although this is generally no longer the case. Menon, 161–162, 175. Menon explains that in the ten-tiered hierarchy of Brahmins in Kerala, Aṣṭavaidyas occupied the second-to-lowest tier. As mentioned in the prior chapter, due to their association with dissection and with surgical practice, they were not allowed to study the Vedas or perform Vedic rituals. The Vaidyamadhan Nambuthiris, on the other hand, were of the highest Brahmin caste. See Menon, 57–58, 158, 164.

<sup>3</sup> See Charles Leslie's discussion of contemporary Āyurvedic diagnosis as a syncretic process based on tacit knowledge in "Interpretations of Illness: Syncretism in Modern Ayurveda," 201. For a discussion of modern Āyurvedic diagnosis centered on the physician's "body-as-technology," see Mukharji, *Doctoring Traditions*, 227–256.

<sup>4</sup> *Carakasamhitā Sūtrasthāna* 11.17–25. For a detailed discussion of epistemological models offered in the *Carakasamhitā* see Karin Preisendanz, "Logic, Debate and Epistemology," 261–312.

<sup>5</sup> This priority is according to the order given in *Carakasamhitā, Sūtrasthāna* 11.17–25 as well as sections of *Carakasamhitā, Vimānasthāna*, chap. 4. See also Ashokan, *Philosophy of Carakasamhitā*, 194.

combined with inference, and in certain passages, with *yukti*, as a form of reasoning.<sup>6</sup> The sensory perceptive capacities of Āyurvedic physicians, as mediators of the embodied experience of knowing, play a key role in Āyurvedic diagnosis.

Although physicians' descriptions of *sensory negotiation* pertain to all of the senses, touch, as essential and intimate, plays a special role. As we have seen in prior chapters, touch is privileged and also vexed among the senses in classical Āyurveda. Touch, *sparśa*, functions to mediate between the other sense faculties and the mind (*Carakasamhitā Sūtrasthāna* 11.38). Further, contact with the touch faculty and the mind are the two types of contact (*samsparśa*) that are the origin of sensations of well-being and illness (*Carakasamhitā Śārīrasthāna* 1.133). And, through touching and being touched, bodily boundaries may be transgressed, and social status challenged. In this way, touch and the possibility of its transcendence is a particularly important nexus for *sensory negotiation*. In the chapter's conclusion, I will show how the Sanskritic concept of *yukti*, as a uniquely Āyurvedic *pramāṇa*, is engaged by physicians as an epistemic remedy for *sensory negotiation* in practice.

### Postcolonial Āyurveda: From Epistemological Crisis to Carnival and Contestation

Narratives of the crisis facing Āyurveda revolve around issues practitioners grapple with in the overlapping realms of epistemology and education.<sup>7</sup> Yet these narratives exist in contrast with the passion physicians I spoke with invariably exhibited for the “science.”<sup>8</sup> In his address at the Third Global Āyurvedic Conference in Kozhikode, Kerala, India's Prime Minister Narendra Modi reaffirmed the Indian government's commitment to Āyurveda and suggested that it could play a central role in the World Health Organization's stated mission of combatting non-communicable diseases worldwide. But he also named one of the central challenges faced in the “propagation” of Āyurveda as “inadequate scientific scrutiny and concerns regarding standards and quality.”<sup>9</sup> For Modi, the issue of “propagating” Āyurveda is tied to his party's Hindu fundamentalist agenda. This issue was a central topic of discussion at conferences where members of the Āyurvedic community grappled with questions of research methodology and training. However, most of the Āyurvedic physicians I worked with in Kerala (Hindu, Muslim, and Christian) are not aligned with a Hindutva agenda in their concern with propagating the field of their profession. For example, one methodological problem frequently discussed was how to produce research maintaining the case-specific diagnostic and treatment methods of Āyurveda while demonstrating clinically significant and replicable results publishable in mainstream scientific journals.<sup>10</sup> At the same time, in an implicit critique of this agenda, several physicians

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<sup>6</sup> In this context, *yukti* is a type of reasoning that takes into account multiple interacting causal factors, I translate the term as “reasoning.” For discussions of *yukti* in this passage see, also, the following references: Dasgupta, *History of Indian Philosophy*, 2:373, 375; Filliozat, “*Yukti*, le Quatrième *pramāṇa*,” 33–46 and “Caraka's Proof of Rebirth,” 106–109; Preisdanz “Logic, Debate and Epistemology,” 281, 300n104.

<sup>7</sup> Jean Langford's ethnography, *Fluent Bodies*, addresses this intertwined crisis in detail.

<sup>8</sup> When practitioners referred to “the science” of Āyurveda, they were speaking of the intertwined textual bases and evolving practice of Āyurveda. For a historical treatment of this terminology, see Projit Mukharji's discussion of the choice of nineteenth century “Ayurvedists” to label Āyurveda as “science” rather than as “medicine.” Mukharji, *Doctoring Traditions*, 28–30.

<sup>9</sup> Narendra Modi, “Text of PM's speech at Vision Conclave at Global Āyurveda Festival.”

<sup>10</sup> These debates have been going on for at least the last three decades. See Langford, *Fluent Bodies*, 140–187.



told me that “authentic” practitioners of Āyurveda are not present in the public eye trying to publish studies or market products. Rather, practitioners of “*śuddha*” (authentic) Āyurveda are, for the most part, imagined to operate out of the limelight, far from universities and academic publications, running their own clinics and often not sharing their teachings with anyone outside of their family lineage.<sup>11</sup>

Dr. P. Ram Manohar, a leader in reforming Āyurvedic research and education, describes the problem of negotiating these epistemological and methodological problems in the context of Āyurvedic education as follows:

The entire Āyurvedic curriculum is designed in a manner that mimics the MBBS course with a view to achieve equal status with modern medicine.<sup>12</sup> Even the topics of study are terms translated from English to Sanskrit to create subjects that did not exist in Āyurveda.... There is a need to have a thorough revision of the syllabus and the network of topics that will be effective to convey the thought process of Āyurveda to the student and not end up as a cheap caricature of western medicine.<sup>13</sup>

Manohar’s position suggests addressing the crisis in Āyurvedic education through establishing a curriculum that presents classical Āyurveda through its own *terms*, which he equates with the classical Sanskrit corpus, rather than attempting to mold Āyurveda into a form of “modern/western medicine.” Steps take in this direction in Kerala include the creation of residential educational workshops for students that teach the theory and practice of classical Āyurveda through direct engagement with the treatises and the establishment of a new private Āyurveda college modeled on the traditional *gurukula* training system where students live and study with their teachers for an extended period of years.<sup>14</sup>

Another element contributing to the narrative of crisis is the prevalent view held by Āyurvedic practitioners and students that most Āyurvedic medical students are enrolled in the Āyurvedic BAMS (Bachelor of Ayurvedic Medicine and Surgery) training program because they did not gain admission into the preferred allopathic MBBS (Bachelor of Medicine, Bachelor of Surgery) program. Dr. A., a physician in her late twenties, explained, “The worst part is if you don’t get to study anything else—engineering or computer science—if you have the lowest mark, you go into Āyurveda. There are so many people who study Āyurveda but practice allopathy. In Kerala this is banned—in South India it is banned.” Her first point was echoed repeatedly by

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<sup>11</sup> This distinction is congruent with Charles Leslie’s categories of Indian medicine from the 1970s, which include (1) classical Āyurveda as outlined in treatises; (2) “*traditional-culture medicine*” as the syncretic contemporary practice of Āyurveda; and (3) “*professionalized Āyurvedic medicine*” practiced by those participating in professional associations, conducting research, and teaching in universities, respectively (Leslie, “Ambiguities of Medical Revivalism in Modern India,” 358–359). For a discussion of the history and politics of *śuddha* Āyurveda in the context of twentieth-century revivalism of Indian medical systems see Leslie, 356–367; on the Vyas Report, refer to Wujastyk, “The Evolution of Indian Government Policy on Ayurveda in the Twentieth Century,” 67–68 and Langford, *Fluent Bodies*, 109.

<sup>12</sup> MBBS (Bachelor of Medicine, Bachelor of Surgery) is the credential earned by practitioners of allopathic medicine in India.

<sup>13</sup> Manohar, “Ayurvedic Education: Where to Go from Here?,” 144.

<sup>14</sup> For example, Ashtamgam Āyurveda Chikitsalayam & Vidyapeedham was opened in Kootanand, Kerala, in 2016. Also, see Menon’s discussion of “Ashtangam,” Menon, *Hereditary Physicians of Kerala*, 214–215.

faculty members teaching at Āyurveda colleges and MBBS students.<sup>15</sup> However, a number of the physicians I met had chosen Āyurveda as a vocation either because they come from a family of Āyurvedic physicians or a teacher suggested that career path to them. Other physicians, while not having initially aimed for an MBBS as their first choice of degree, became passionate about the study and practice of Āyurveda having studied with a particular teacher or attended an intensive residential training program.

The perceived crisis in Āyurvedic education is gendered, as the vast majority of BAMS students in India today are women. The head-docent at the Vaidyaratnam museum in Thrissur stated that currently ninety percent of BAMS students in India are women. As an example, the BAMS 2010–2016 class of the Government Ayurveda Medical College in Thiruvananthapuram, had sixty-five women and five men in the “batch.”<sup>16</sup> A professor who taught the cohort mentioned above stated that he was only aware of one female student from the class currently practicing full-time.<sup>17</sup> However, Dr. A., who was recently married to a male Āyurvedic physician, commented on the gendered economics of a career in Āyurveda, “It’s good for women to practice Ayurveda but not men because they can’t make a living unless they have a family history—lineage—set up. Then it’s easy.” Most female Āyurvedic physicians I spoke with were providing a second source of income to supplement a larger income earned by their husband, either in Kerala or abroad in a Gulf country. If they had children, they were also juggling primary responsibility for childcare in an urban space where couples are increasingly living separately from their parents. Further, the attainment of a BAMS degree enhances education and the social status of prospective brides when parents are seeking a commensurable spouse for arranged marriages. For physicians in the middle class aspiring towards upward mobility, this additional income was perceived as essential. The male physicians I spoke with, unless they came from a “lineage set up,” worked multiple Āyurveda jobs in order to earn a living.

As Dr. A. notes, in Kerala it is illegal for Āyurvedic practitioners to practice allopathic medicine, whereas in Maharashtra, for example, many BAMS graduates practice a combination of allopathic medicine and Āyurveda.<sup>18</sup> While an Āyurvedic physician in Kerala can order diagnostic laboratory tests such as blood sugar and cholesterol screening, or imaging, such as X-ray or MRI, they are not legally permitted to prescribe allopathic medicines or to perform allopathic procedures. Physicians did not report frequently ordering diagnostic imaging tests, though laboratory tests were ordered—for example, the “urine routine examination” that enables assessment of kidney function and detection of diabetes.<sup>19</sup> Dr. K., a physician in his mid-thirties, explained that this was not a diagnostic test, but rather, a “pre-clinical” test to assess the patient’s kidney function and make sure they are not experiencing renal failure, because if a patient’s kidneys are not functioning within a normal range then the Āyurvedic medicines will not work properly. He also orders pre-clinical urine tests to protect his own liability against claims of kidney damage caused by the possible heavy metal content of some Āyurvedic medicines, an

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<sup>15</sup> Langford’s findings attest to both of these points. Langford, *Fluent Bodies*, 130–131.

<sup>16</sup> Personal communication with a graduate of this “batch.”

<sup>17</sup> Menon reports a similar statement made by one of the physicians he interviewed. Menon, *Hereditary Physicians*, 66.

<sup>18</sup> For a study on the prevalence of allopathic medical practice among practitioners of traditional medicine in Ahmednagar district Maharashtra, see Manjiri Sule and Shirish Kavadi, “The Reality of Ayurveda Medical Practice with Some Observations from the Field.”

<sup>19</sup> The “urine routine examination” is also known as a routine urine test or urinalysis.

issue that has received considerable media attention in the past decade.<sup>20</sup> The two main physicians I worked with asked almost every patient if they had the results of recent blood sugar and cholesterol tests. If a patient brought diagnostic tests ordered by allopathic doctors to their Āyurvedic consultation, a common occurrence, the physician had to be able to read, understand, and converse with the patient about them. Establishing credibility in the eyes of patients and integrating different types of knowledge into diagnosis are twin challenges faced by Āyurvedic physicians practicing in a medical landscape dominated by “modern” medical epistemology.

These challenges faced by Āyurvedic physicians demand reading with attention to deeper roots than the present context of Prime Minister Modi’s mobilization of Āyurveda and Yoga as part of a neoliberal Hindutva agenda.<sup>21</sup> Charles Leslie’s formative work in the 1970s established that the concept of a crisis or decline of Āyurveda and was essential to the postcolonial nationalist revival of Āyurveda as a form of “indigenous medicine.” He identified an Orientalist-inspired narrative of a pure, or “*śuddha*,” classical Āyurveda that gradually declined under a series of spreading influences, most recently “cosmopolitan medicine.”<sup>22</sup> Leslie traces this ambiguity through to a later period when *śuddha* Āyurveda’s claims to epistemological authority are often made to rest on the basis of “cosmopolitan” scientific knowledge.<sup>23</sup> Here, we must bear in mind the specifics of the process that took place in Kerala (as discussed in the introduction), which entailed a simultaneous contestation of the cultural authority of the colonizers and a prioritization of Sanskrit and English knowledges among practitioners who worked to assert dominance over local medical practices.<sup>24</sup> In her 1990s ethnographic study, Jean Langford explained the narrative of Āyurveda in “crisis” as easily “assimilated” into the Indic temporal model that frames contemporary times as the *kaliyuga*, an era of “darkness” and “*adharmā*” (“unrighteousness”).<sup>25</sup> She showed that this discourse of authenticity is accompanied by a linear, but reversed, “historicism,” as Āyurveda is seen “not so much evolving as devolving from its

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<sup>20</sup> For example, see Khandapur et al., “Chronic Arsenic Toxicity from Āyurvedic Medicines” and Vartika et al., “Toxic Metals and Organochlorine Pesticides Residue in Single Herbal Drugs Used in Important Ayurvedic Formulation—‘Dashmoola.’”

<sup>21</sup> This dynamic is complicated by a North-South axis of tension surrounding the fact that while the Central Council of Indian Medicine (CCIM) in Delhi sets nationwide Āyurvedic regulatory and educational policies, Kerala has its own distinct and rich history of Āyurvedic practice.

<sup>22</sup> Leslie, “The Ambiguities of Medical Revivalism.” Leslie describes an exemplary “ambiguity of revivalism” in the entrance of pulse diagnosis into Āyurveda, which he attributes to a process of co-mingling or syncretism with Unānī medicine beginning in the thirteenth century. At the same time that Unānī—and Islam in the larger historical narrative—was understood as a competing and corrupting form of medicine, pulse diagnosis was often claimed as part of *śuddha* Āyurveda, effectively erasing the complex historical interactions between Āyurvedic and Unānī concepts and practices.

Whereas Kenneth Zysk argues that *nāḍīvijñāna* entered into both Āyurveda (circa fourteenth century) and Tamil Siddhar Medicine via Unānī Tibb (Greco-Arabic medicine), Prudence Bruns argues that pulse diagnosis entered into India via two separate paths, being absorbed into Āyurveda in the north via Unānī Tibb and, much earlier, into Tamil Siddhar Medicine in the south via Chinese Taoism with subsequent tantric influence. See Bruns, *Naḍīvijñāna: The Crest Jewel of Āyurveda*, 67–70; Zysk “An Indologist Looks at Siddha Medicine in Tamilnadu,” 184.

<sup>23</sup> Leslie “The Ambiguities of Medical Revivalism,” 179.

<sup>24</sup> See Panikkar, “Indigenous Medicine and Cultural Hegemony,” 308.

<sup>25</sup> Langford, *Fluent Bodies*, 16.

divine origins as a perfect science.”<sup>26</sup> This sense of devolution is echoed in the perception of impaired sensory capacity in relation to the idealized *āpta* that I suggest in this chapter.

In his study of the “epistemological carnival” of an IASTAM conference in Pune, Lawrence Cohen aptly describes an “epistemological anxiety” undergirded by the dynamic and multiple nature of bodies rendered invisible, as claims are made and contested through and about “Ayurveda.” The tension between the “national body” and the “cosmopolitan body,” unacknowledged but playing a critical role in the “carnival” of epistemological claims analyzed by Cohen, are what I address here as the tension between different forms of epistemic authority negotiated by individual physicians.<sup>27</sup> In a Keralan context, linguistic anthropologist Matthew Wolfgram argues that is precisely through “the recurrent contestation of truth claims which crosscut the disciplines,” that a productive boundary between Āyurveda and “cosmopolitan medicine” is maintained.<sup>28</sup> This contestation is an ongoing “labor” that must be performed by “school educated Āyurveda practitioners,” and it is this labor of mediation as it plays out in institutionally educated physicians’ bodily experience of their senses that I am calling *sensory negotiation*.<sup>29</sup>

The Āyurvedic physician’s embodied experience of diagnosis necessarily entails a *sensory negotiation* between disparate epistemologies crystallized in the form of the authoritative knowledge of treatises and technologies. *Sensory negotiation* is enacted in the field of what Lorraine Daston and Peter Galison call “epistemic virtues,” internalized norms around effective means of knowledge and the forms of “disposition” that facilitate knowing.<sup>30</sup> Illustrating the enmeshment of epistemology and embodiment, Daston and Galison’s work on scientific objectivity shows that striving toward these norms results in the production of types of “scientific selves,” or in Foucauldian terms, forms of subjectivation through “technologies of the self.”<sup>31</sup> They demonstrate that different epistemic virtues can exist at the same time, competing, coexisting, and modifying one another.<sup>32</sup> “Although they may sometimes collide, epistemic virtues do not annihilate one another like rival armies. Rather, they accumulate.”<sup>33</sup> In contemporary Kerala the epistemic virtue of authoritative testimony as a means of valid knowledge—idealized in the figure of the authoritative individual (*āpta*) possessing a cultivated mind, free from faults—exists simultaneous to the epistemic virtues of “modern” scientific objectivity and trained judgment. *Sensory negotiation* takes place as the Āyurvedic physician navigates the terrain of this accumulation.

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<sup>26</sup> Langford, 65. In Langford’s study, the figure of the “quack,” a non-institutionally educated Ayurvedic practitioner, enacts a complicated mimetic relationship with both institutional Āyurveda and “modern” medicine. For a discussion of the way that the figure of the ideal physician is positioned in relation to the specter of the false or improperly trained physician in the classical treatises, see Wujastyk, *Well Mannered Medicine*, 39–51.

<sup>27</sup> Cohen, “The Epistemological Carnival,” 321–322.

<sup>28</sup> Wolfgram, “Truth Claims and Disputes in Ayurveda Medical Science,” 150.

<sup>29</sup> Wolfgram, 163.

<sup>30</sup> Daston and Galison, 40.

<sup>31</sup> Daston and Galison, 44. Although Michel Foucault’s earlier work addressed technologies of power in relation to subjectivation (i.e., disciplinary power and biopower), his later work turned increasingly to “care of the self” and “technologies of the self” engaging with the relationship between the subject and truth. Foucault, *The Hermeneutics of the Subject*, 233.

<sup>32</sup> Daston and Galison, *Objectivity*, 44, 199.

<sup>33</sup> Daston and Galison, 363.

## Keralan Hybridities

The vitality and importance of the classical treatises in the practice and embodied experience of physicians was readily apparent in clinical practice. This is not to say that practices described in the classical treatises were precisely followed, but that the physicians I spoke with considered the classical treatises as a central basis of their practice and often referred to them in discussion.<sup>34</sup> In Kerala, this was particularly the case with the *Aṣṭāṅgahṛdaya*, a treatise written as an easily memorized physicians' manual that is the most widely used Āyurvedic text in the state.<sup>35</sup> Classical treatises were ubiquitous on bookshelves and desks, and physicians referred to them when speaking publicly and in informal conversations. These findings expand on Anthony Cerulli's recent work showing the importance of engagement with Sanskrit treatises in South India *gurukula* educational and clinical settings.<sup>36</sup> In the *gurukula* context, he finds "a new generation of physicians whose commitment to being informed professionally entails the regular deployment of premodern knowledge in their contemporary practices." Cerulli argues that rather than an *a priori* understanding, this engagement is "antimodern, nationalistic, antic cosmopolitan, and dangerous." The physicians he engages with are "activist readers" who "participate in an ongoing intellectual exchange that is not captured by notions of pure or mixed Ayurveda that arose under colonialism."<sup>37</sup> Although only two of the physicians I worked with were trained in both the institutional and *gurukula* settings, all of the physicians relied upon and engaged with the Sanskrit treatises for some aspects of their practice. The institutionalization of Āyurvedic education, first under the British and then in the post-independence period, effectively separated what Charles Leslie calls "*professionalized Āyurvedic medicine*" from "*traditional-culture medicine*."<sup>38</sup> In Kerala, this distinction is often complicated by physicians who straddle the worlds of institutional and non-institutional Āyurveda, creating complex local "hybridities."<sup>39</sup> Indudharan Menon's recent monograph on hereditary medical practitioners in Kerala argues that two central factors shaped Kerala's rich and enduring medical heritage:

One is the fact that tribal and folk knowledge regarding the medicinal use of endemic plants and substances happened to be an exceptional resource available to all local

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<sup>34</sup> On the relationship between textual knowledge and a specific enema practice in contemporary Kerala, see Sankaranarayana, "Texts and Physicians in Keralan Ayurveda."

<sup>35</sup> Indudharan Menon recounts a story about the wide use of this treatise in Kerala. Note that the seventh-century author of the treatise, Vāgbhata, is thought to have been a Buddhist. "There is a legend among Kerala's Brahman Ashtavaidyan physicians that Vagbhata, the author of *Ashtangahrdayam*, came to Kerala after having been rejected by people in other parts of the subcontinent because of his religious affiliation. Legend also has it that when he arrived in Kerala, he was welcomed with open arms by local physicians and treated with reverence." The author goes on to explain that this would have been a time when Buddhism still was popular in Kerala, prior to the political and economic ascendancy of the Nambuthiri Brahmins in the last centuries of the Common Era. Menon, *Hereditary Physicians of Kerala*, 9, 52.

<sup>36</sup> Cerulli, "Politicking Ayurvedic Education," 298–334.

<sup>37</sup> Cerulli, 329.

<sup>38</sup> Leslie, "Ambiguities of Medical Revivalism in Modern India," 358–359.

<sup>39</sup> I use the plural, "hybridities," following Akhil Gupta's work on agricultural development in India, "Explanations of hybridity as an identity of difference themselves need to account for the multiple (often hierarchical) positions that are encapsulated within that term, so as not to universalize a particular relation to colonial discourse, namely, that occupied by colonized elites." Gupta, *Postcolonial Developments*, 230.

physicians for experimentation and medicinal discoveries. The other is the fact that knowledge of the practical application of certain important therapeutic techniques and medicinal preparations mentioned in ancient texts on Ayurveda that fell into disuse almost everywhere else in the subcontinent happened to be preserved and transmitted in families of certain hereditary physicians.<sup>40</sup>

Here, Menon is referring not only to the famous Brahmin Aṣṭavaidyān hereditary lineages of Āyurvedic physicians, but to a range of healing practitioners across castes and religions.

The field research portion of this study is based on attending over two hundred hours of patient consultations in three urban clinics in Kerala during the course of textual study sessions, informal interviews with nine Āyurvedic physicians, and conversations with numerous Āyurvedic physicians, teachers, and students,<sup>41</sup> visits to Āyurvedic clinics and hospitals,<sup>42</sup> and attendance at two academic conferences and one week-long intensive residential training course on Āyurveda attended by BAMS and postgraduate Āyurveda students. The physicians whom I interviewed were all BAMS graduates,<sup>43</sup> eight of them also had earned an advanced postgraduate MD degree (Ayurveda Vachaspati),<sup>44</sup> five of them came from families with a tradition of Āyurvedic practice, and out of this last group, two also received traditional training in a *gurukula* setting. One of the female physicians, although not trained in a formal *gurukula* system, also learned a great deal from her relatives on both sides of the family. On one side, her grandfather came from a family lineage of *vaidyas*, and on the other, her grandmother was trained at the Government Āyurveda Medical College Thiruvananthapuram, and served as a physician to the “ladies” of the Travancore court. All of the physicians I interviewed practiced in or within fifteen miles of an urban area, and most worked in more than one location. They worked in a range of settings, including inpatient and outpatient faculties at large private Āyurvedic hospitals, and self-owned small and medium-sized home clinics. Two of the physicians had founded large Āyurvedic centers, and half were teaching, or had taught, at a public or private Āyurvedic college.<sup>45</sup>

The study of classical treatises in Sanskrit is part of the Āyurvedic curriculum set by the Central Council of Indian Medicine under the Ministry of Ayush in New Delhi. Students in Kerala generally study them aided by Malayalam transcriptions and translations of the treatises along with commentaries written in Malayalam, and more recently, guided by English translations.<sup>46</sup> As Anthony Cerulli notes, most BAMS students do not have time to attain

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<sup>40</sup> Menon, *Hereditary Physicians of Kerala*, 15.

<sup>41</sup> Conversations and interviews were recorded through handwritten or typed notes; language that I transcribed verbatim appears here in quotation marks, with the exception of the occasional verbal form or prepositional phrase changed to ease the reader’s understanding.

<sup>42</sup> The places of practice I visited ranged from a consultation office in a family residence to outpatient clinics and inpatient hospitals.

<sup>43</sup> The BAMS degree is a five-and-a-half-year program including a one-year clinical internship. The next level of training for Āyurvedic physicians is the MD (Ayurveda), a three-year postgraduate training in an Āyurvedic specialty.

<sup>44</sup> Most physicians indicate this designation on their business cards and signs as “MD (Ayurveda).”

<sup>45</sup> To maintain the anonymity of Āyurvedic physicians, identifying factors have been omitted and names have been shortened to a single letter. For this reason, I have not noted the caste, religion, or political affiliation of physicians although these are important axes of identity in contemporary Kerala.

<sup>46</sup> For example, Thirumulpad, *Ashtangasangraha Malayalam Commentary*; Vaidyan, *Ashtāṅghrudayam Sutrasthānam*; and multi-volume editions of the *Carakasamhitā* and *Suśrutasaṃhitā* with translation and

proficiency in Sanskrit due to lack of training at the primary and secondary school levels.<sup>47</sup> The physicians I met had a range of literacies in Sanskrit. The few having a high level of proficiency had received Sanskrit instruction prior to their BAMS entrance and some had completed a three-year postgraduate MD (Ayurveda) with the specialization of Saṃhitā and Siddhānta, entailing a close reading of the *Carakasamhitā* and other classical texts with commentaries for several hours per day. More commonly, physicians were able to read, discuss, and recite specific verses from the classical treatises that they had memorized during their BAMS training.<sup>48</sup> Important for our purposes is that physicians in this study regarded the classical texts as the idealized basis for their diagnostic practices.

### Means of Valid Knowledge, Diagnosis, and the Senses

As we saw in Chapter Two, classical Āyurvedic diagnosis in the *Carakasamhitā* is based on four means of valid knowledge, *pramāṇas*, which encompass both the methods of gathering information and the means of processing information: authoritative teaching (*āptopadeśa*), sensory perception (*pratyakṣa*), inference (*anumāna*), and reasoning (*yukti*). Here, I briefly highlight aspects of diagnosis as described in the *Carakasamhitā* and the *Aṣṭāṅgahṛdayam* as examined in the prior chapter with a focus on the epistemic authority and the sensory experience of the physician. This is followed, in the next section, by a discussion of the ways that some Āyurvedic physicians in Kerala describe their own diagnostic sensory capacities. I suggest that while there is not always direct reference to the epistemological framework set forth in the treatises, the ways that physicians describe their experience of sensory limitation and their anxieties about the use of “modern” diagnostic technologies reflect the critical relationship between the ideal of authoritative teaching—both described in, and represented by, the classical treatises—and the physicians’ own sensory perceptions.

When speaking with physicians in Kerala about touch in classical Ayurveda, initially they almost invariably cited the diagnostic maxim of *trividhaparīkṣā* (“threefold examination”)<sup>49</sup> by *darśanasparśanapraśnaih* (“by means of sight, touch, and questioning”) at the beginning of *Aṣṭāṅgahṛdaya Sūtrasthāna* 1.22. This text, comprising instructive and clear verses, is the basis for Āyurvedic training practice in Kerala. We examined this passage and its commentary in the last chapter, “One should examine the patient by means of seeing, touch, and questioning; and the disease, by primary cause (*nidāna*), premonitory symptom (*prāgrūpa*), symptom (*lakṣaṇa*),

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commentary by M. Narayanan Vaidyar. Vaidyar’s editions of the *Carakasamhitā* were published in 1979 by the Dhanvanthari Printing Press in Kuttikkalam, Etakkad, and reprinted at Redstar Offset Printers in Calicut in 2009–2011.

<sup>47</sup> Cerulli, “Āyurveda,” 271.

<sup>48</sup> For a discussion of recent BAMS graduates’ difficulties integrating Sanskrit Āyurvedic concepts into their practice see Bode and Shankar, “Ayurvedic College Education.”

<sup>49</sup> There are a number of different enumerations of examination (*parīkṣā*) in classical Ayurvedic treatises, including two threefold examinations in the *Carakasamhitā*—one corresponding to that found in the *Aṣṭāṅgahṛdayasamhitā Sūtrasthāna* 1.22 (*Cikitsasthāna* 22.25) and another corresponding to the first three *pramāṇas* (*Vimānasthāna* 4.3–7), a fourfold examination corresponding to all four *pramāṇas* (*Sūtrasthāna* 11.17), and a tenfold method of examination based on *pratyakṣa* and *anumāna* (*Vimānasthāna* 8.83–84). An eightfold examination method commonly cited by physicians in Kerala is found along with a sixfold scheme in the eighteenth-century pharmacological text, the *Yogarātnākara*. Meulenbeld, *HIML*, 2A:262. For a charting of these systems, refer to Ranade and Kuber, *Ayurvedic Clinical Diagnosis with Modern Perspective*.

suitability of food, medicine, and conduct (*upaśaya*), and progression (*āpti*).” Recall (from Chapter Two) that Aruṇadatta’s commentary on this passage emphasizes the importance of the physician’s experience of diagnosis as centrally concerned with assessing the twenty *guṇas* (attributes) and therefore reliant upon the senses.<sup>50</sup> As G. Ashokan notes in his discussion of sensory perception in the *Carakasamhitā*, “In cognizing an object all that is directly known by the senses is its qualities.”<sup>51</sup> Aruṇadatta emphasizes the importance of the physician’s examination of the *guṇas*, such as “coldness, heat, stiffness, throbbing, softness, and roughness,” particularly in reference to touch (*sparśa*). Physicians also indirectly examine *guṇas* through questioning the patient, for example, when assessing the texture of the stool.

The passages we examined in Chapter Two from the earlier treatise, *Carakasamhitā Sūtrasthāna* 11.17–25 and *Vimānasthāna* 4.1–7, revealed the primacy of the authoritative individual/authoritative teaching in the compendium. Both of these passages detail the relationship between authoritative teaching and sensory perception as *pramāṇas*, or means of valid knowledge, and therefore as the basis for diagnosis. In explaining the *pramāṇas*, *Carakasamhitā Sūtrasthāna* 11.18–19 foregrounds the importance of authoritative teaching by describing the qualities of the authoritative person (*āpta*) at the outset. The authoritative person who is capable of authoritative teaching (*āptopadeśa*) or authoritative speech (*āptavacana*) must achieve a state free from the *doṣas* of the mind, passion (*rajas*), and inertia (*tamas*).<sup>52</sup> According to the passage,

Those who are completely free from passion and inertia by means of the strength of spiritual endeavor and knowledge, who always possess clear unimpeded knowledge of the past, present, and future; those learned, enlightened authorities; their speech is, without a doubt, true. Those who are completely free from passion, how could they speak the untruth?<sup>53</sup>

This status is attained through the practice of *tapas*, which can be translated as austerities, “penance,” or “spiritual endeavor” in order to achieve an idealized state of knowledge pertaining to the past, present, and future.<sup>54</sup> Next, the passage describes sensory perception as a form of cognition (*buddhi*) that takes place in the present moment, involving the self (*ātman*), sense organs (*indriyas*), mind (*manas*), and sense objects (*arthas*). The *āpta* is one whose mind is free from faults, *doṣas*, and the teaching of an *āpta* is infallible in contrast to the sensory perception of a non-*āpta*. For the practitioner engaging with the text of the *Carakasamhitā*, the source of authoritative teaching is not only the *guru*, or teacher, but also the treatise itself, presumably reflecting the *āpta* status of its authors.

<sup>50</sup> Meulenbeld, *HIML*, 3:662–664.

<sup>51</sup> Ashokan is translating *guṇas* as “qualities.” Ashokan, *Philosophy of Carakasamhitā*, 203.

<sup>52</sup> In *Carakasamhitā Sūtrasthāna* 1.57, *rajas* and *tamas* are explained as the two *doṣas* of the mind, along with the three *doṣas* of the body.

<sup>53</sup> *rajastamobhyāṃ nirmuktās tapojñānabalena ye |  
yeṣāṃ trikālam amalāṃ jñānam avyāhataṃ sadā || (CS Sū 11.18)*

*āptāḥ śiṣṭā vibuddhās te teṣāṃ vākyam asaṃśayam |  
satyaṃ vakṣyanti te kasmād asatyaṃ nīrajastamāḥ || (CS Sū 11.19)*

<sup>54</sup> Meulenbeld translates *tapas* as “penance” (Meulenbeld, *HIM*, 1A:59) and Ashokan gives the translation “spiritual endeavor” (Ashokan, *Philosophy of Carakasamhitā*, 194).



The sensory perceptual capacities of practitioners are understood as built upon their relationship to authoritative teaching, and without its basis, the physician cannot perceive clearly and thereby cannot infer or reason accurately. Whereas the *āpta* is believed to perceive the past, present, and future, the physician must combine sensory observation with inference and/or reasoning to understand the unfolding of a disease and to diagnose. Ashokan contrasts the primacy of authoritative teaching in Āyurveda with other philosophical systems, explaining that “in Ayurveda scriptural knowledge is an essential prerequisite for a physician. It is only after attaining competency in scriptural testimony that a physician becomes proficient in making use of the other sources of knowledge for diagnosis.”<sup>55</sup> Although the knowledge attained by authoritative individuals through the practice of *tapas* may come through insight or revelation, their presumed clarity of mind also suggests that they have special sensory perceptive capacities, serving as an ideal toward which the physician should strive.

The relationship between authoritative teaching and the sensory perceptual capacity of the physician is further explored in a passage explaining the mechanisms of diagnosis, *Carakasamhitā Vimānasthāna* chapter 4. This passage also emphasizes the fundamental place held by authoritative teaching, defining its characteristics and relationship to the other *pramāṇas*. Cakrapāṇidatta emphasizes this in his commentary on *Vimānasthāna* 4.5, explaining that just as a person with no training can see but not understand the differences and specificities of types of jewels, neither can the physician assess a disease through sensory perception and inference without a foundation of authoritative teaching.<sup>56</sup> As we have seen, in this passage, authoritative teaching is a prerequisite for the three other means of valid knowledge, as the question is posed: “Indeed, what that has not been previously taught can be known by being examined through perception and inference?” The passage also specifies that the twofold examination is to be employed by “those possessing knowledge,” which I interpret as referring to those who have already received authoritative testimony, indicating that the implicit basis of authoritative teaching remains present. Those who are not already possessing knowledge should count authoritative teaching among the set of three.

### Diagnosis as Sensory Negotiation

Authoritative teaching is a foundation of classical Āyurvedic epistemology according to the *Carakasamhitā*, and by extension, of diagnosis. Successful processing and assimilation of sensory perception through inference and reasoning rests upon this foundation of authority in the form of treatise and *guru*. As physicians negotiate between Āyurvedic epistemologies and “modern” epistemologies, a *sensory negotiation* takes place that impacts their embodied experience of diagnosis and treatment. This negotiation is not only between the authoritative teaching of texts and teachers juxtaposed, in the course of practice, with diagnostic imaging and laboratory tests, but also involves physicians’ aspirations toward an idealized sensory state. In conversations and interviews two main themes arose that, I suggest, relate to this experience: first, the issue of how contemporary diagnostic technologies and “modern” lifestyles impact physicians’ sensory diagnostic capacities, particularly with relation to the mind and touch, and

<sup>55</sup> Ashokan, *Philosophy of Carakasamhitā*, 194.

<sup>56</sup> ... | *anupadeśavāms tān upalabhamāno 'pi hetvādiviśeṣān aśikṣitaratnaparīkṣo yathā ratnānām viśeṣam paśyann api nāvadhārayati ratnaviśeṣam tathā nāvadhārayati vyādhiviśeṣam iti bhāvaḥ* | *Carakasamhitā*, 248.

second, the relationship between the *āpta* and the contemporary physician. A comment from Dr. K. illuminates these intertwined concerns in terms of diagnosis:

We are not even ten percent using our sense organs in diagnosis today. We are giving our diagnoses to machines. We used to touch to diagnose a fracture. Now we order a light study—X-ray. This is the shift between *vaidyas* and doctors. Why he is a *vaidya* and he is a doctor. The skill of a *vaidya* is the skill of how he is using his sense organs for diagnosis.

Here, we encounter the distinction between doctor and *vaidya*, usually a term indicating more respect in relation to Āyurvedic physicians than “doctor.” The 1946 pre-independence Bhore report on the state of health care in India at that time, stated that Āyurvedic practitioners must use the term “Vaidya” as a less prestigious designation than “Doctor,” the latter being reserved for “a registered medical practitioner in modern scientific medicine.”<sup>57</sup> In this quote from Dr. K., however, a *vaidya* is an authoritative physician, an *āpta* with idealized sensory diagnostic capacities. The implication in Dr. K’s statement is not only that physicians today underutilize their touch faculty due to the availability of technologies to look inside of the body, but also that this practice attenuates their skill. *Vaidyas* are aspirational and authoritative figures capable of skillfully engaging their senses in diagnosis. Doctors, however, use their senses in diagnosis through building on authoritative teachings, not only of the treatise and *guru*, but also on the authority generated by “modern” medical technologies.

The tension between treatise and technology is foregrounded in two conversations I had that turned to the topic of pulse examination, *nāḍīparīkṣā*, and perception through touch. This technique became integrated into Āyurveda in the fourteenth century and is widely used today, regarded by many as the most powerful diagnostic tool available within the system.<sup>58</sup> Sitting in his consultation room, Dr. R., a physician in his mid-thirties, explained why he uses allopathic diagnostic methods rather than pulse diagnosis.

If you are going to use your body as an instrument, as a tool, then you would need to live a life free from all other distractions and be fully focused. You have to be a *siddha*. Those things that we don’t usually think of as vices, like TV and movies, they would be a distraction for someone trying to train themselves to read the pulse.

He spoke of one person he knew, now deceased, who read the pulse “very well,” emphasizing that “it was his *only* focus.” This physician did not watch television, go to movies, or give attention to anything “outside of his practice.” Dr. R. made it clear that pulse diagnosis was only possible for a different type of physician than himself, who has attained the status of a *siddha*, one who has attained supra-normal skills through practice or religious adherence. Dr. S., a physician in her forties who practices in her home and is retired from teaching at an Āyurvedic college, self-identified as a third-generation *vaidya*. She shared a similar description of her uncle, explaining, “He only uses pulse and refuses the information from diagnostic tests.” Dr. S. contrasted this with Āyurvedic physicians who use MRI and other diagnostic technologies,

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<sup>57</sup> Dominik Wujastyk, “The Evolution of Indian Government Policy on Ayurveda,” 48.

<sup>58</sup> Refer to footnote 22 in this chapter. Many physicians regarded *nāḍīparīkṣā* as present in the early classical Āyurvedic treatises.

stating that they were “like allopaths.” Citing “*darśana*, *sparśana*, and *praśna*” from the *Aṣṭāṅgahṛdayam* she detailed her diagnostic process in relation to that of her uncle:

You look for symptoms and abnormalities. After that you touch, for example in the case of *vidradhi*, abscess, *vṛddhi*, growth, *gulma*, any protuberance, and use these to determine whether the ailment is *vāta*, *pitta*, or *kapha-ja* (arisen).<sup>59</sup> Pulse comes after *praśna*, it is the most important diagnostic tool in Āyurveda. My uncle can tell everything, and I can tell things like blood pressure, whether a woman is on her period ... and a few others, only. It is divine. Pulse diagnosis is handled by different people differently. It is learned through experience. You can do an extra three years at Āyurveda College or study with a *guru* to really practice it ... something accessible only to a person free from sensory and mental distractions.

Like Dr. R.’s view of his friend who was adept at pulse diagnosis, Dr. S. considered her uncle to be free from “sensory and mental distractions,” performing a “divine” level of diagnosis, similar to the authoritative individual (*āpta*) free from passion and inertia in the classical treatises. She views this form of authority as external to herself, and while this does not impede her practice of diagnosis through touch, it limits the data that she can collect through her felt sense of pulse diagnosis.

Dr. D., a physician in her early thirties working at a small clinic, shared her personal story of being diagnosed with a serious illness and subsequently meeting her *guru*. Here I cite her at length speaking about his diagnostic capacities with a focus on seeing, or *darśana*:

Nowadays *darśana* is when the person is sitting nearby or coming ... but we don’t know how the *ācāryas* (teachers) might have written about *darśana*. I told you about that one day the patient was coming from the house.<sup>60</sup> I don’t know if in any text it is written, CT, MRI, as *darśana*. I’m not against this. Nowadays everyone is following this. We don’t want the patient to think “This doctor doesn’t know anything.” Two generations earlier they were much [more] dedicated for this profession. Through their meditation or dedication they would know that someone was coming. They would be preparing the medicines before the patient is coming... Especially for snakebite ... they would know the direction of the patient coming, preparing the antidote before the patient comes. The environment would show signs... He says one person is coming and he will tell about them. Then in one-and-a-half hours they come... He is a mind reading expert—he is a great doctor... He would not use MRI, nothing... I have personally met two *gurus*, *vaidyas*. These kinds of *gurus* we won’t find in Government Āyurveda College, [not in] clinics, [they are] not the typical caste [doctors] but [they become doctors] out of their own wish. They are not greedy for money—only charge for medicine. Taking the rejected cases, the challenges. He has the courage. By sitting with him I too get courage.

In this discussion, Dr. D. does not object to understanding MRI or CT scanning as possible means to expand the physician’s capacity for diagnostic vision (*darśana*). However, it is clear

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<sup>59</sup> In this statement, “ja,” meaning “arisen,” is to be construed with each of the *doṣas*: *vātaja* (arisen from *vāta*), *pittaja* (arisen from *pitta*), *kaphaja* (arisen from *phlegm*).

<sup>60</sup> Here, she is referring to a story about her *guru* announcing the arrival of a specific patient through his own powers of insight before he had ever met or heard about the person.

that from her perspective, her *guru* relies not only on his five senses, but also on his mind, conditioned through “dedication” and “meditation,” and an idealized intuitive sense that comes through practice and moral character. The use of “modern” diagnostic techniques as a compensatory mechanism for a lost “sense” is attested in testimony by Murti in an appendix to the 1923 Madras Report, cited in Jan Langford’s ethnography.

It is possible for the master-minds to perfect their “sense” (in which term, they include the mind also—“the sixth sense” as it was sometimes called) to so great a degree as to include, within their range, everything from the most microscopic to the most macroscopic... herein lies the difficulty of the Hindu method; because, the perfecting of the senses to the desired degree can be achieved, if at all, by only exceptional individuals of our generation; and therefore the satisfaction of direct observation is not possible to the great majority of us. Herein also lies the immense value of the external aids which Western Science provides us with (Murti, quoted in Government of Madras 1923, appendix 1:21).<sup>61</sup>

The physicians I met who experienced a *gurukula* style of Āyurvedic education system studied with their *guru* before, during, and after BAMS training.<sup>62</sup> Dr. V., a doctor in his forties, and the head of a well-known hospital that he founded, framed the issue of impaired sensory capacity in terms of purification.

In terms of diagnosis, we are looking for consistency of the three *doṣas*. Most *guṇas* can be sensed by touch only, for example *śīta* (cold) of *kapha* and *vāyu* (*vāta*), the *rūkṣa* (dry) of *vāyu*, the rigidity—*kāthinam* of *vāyu*. Touch is an integral part of the diagnosis. We palpate joint, muscle, skin.... *Nāḍīparīkṣā* is not in our school....<sup>63</sup> [Diagnosis requires] *karma śucitam* (purified action) and *jñāna śucitam* (purified knowledge). *Karma śucitam* is difficult, *jñāna śucitam* is easy through continuous practice. *Karma śucitam* has three parts, *kāya*—physical, *vāc*—verbal and *manas*—mental. These three are essential for *indriya śucitam* (purified senses). But *indriyas* are also contaminated these days. The people of ancient days, the *ācāryas* (teachers), *rṣis*—seers, they got *jñāna* (knowledge) through *tapas* (austerities). People use this as an excuse, but my *guru* used to tell me *tapas* is the willingness to sacrifice to achieve their goal. Not sitting in *padmāsana* (lotus-seated posture)....<sup>64</sup> They achieved their *jñāna* through *tapas*. *Indriya* must be *śucita* before you start. It is difficult today. We used to say there is a difference between information and wisdom. Wisdom is contentment and peace. The information revolution causes panic. Āyurveda is very simple but you need *indriya śucitam* to understand this....

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<sup>61</sup> Langford, *Fluent Bodies*, 92.

<sup>62</sup> For a study of the teacher-student relationship and Āyurvedic training in the classical texts, see Preisendanz, “The Initiation of the Medical Student in Early Classical Ayurveda.”

<sup>63</sup> Dr. V. And Dr. N. trained with the same well-known *guru* who did not favor the use of pulse examination. He was from a poor Brahmin family (his mother was from a Kṣatriya caste) but unlike high-caste physicians from Aṣṭavaidya lineages, social status was not the reason for this choice. Rather it was a matter of favoring *yukti*, in the contemporary Malayalam sense of scientific rationality, or empiricism, and did not consider pulse diagnosis to be such a practice.

<sup>64</sup> Here, the idea is that *tapas* involves the activities of medical training and practice, not only an inward turning meditative practice.

After years you can use *darśana* and *praśna*, you will be able to make a *samprāpti* for *dukkha* (assess the pathogenesis of an illness). I witnessed this art from the *guru* but I don't know if I am able to transmit it to my students.... In most situations *praśna* alone [I can use] but in the institute—with documentation—I cannot do diagnosis offhand. I use *sparsana* deliberately. It is not essential now. But you have to go through this for students.

Dr. V. explains that the role of touch and examination via the senses as critical in diagnosis, but only for the physician who has not purified his action, knowledge, and senses, through *tapas*. In essence, only for the non-*āpta*. Here, although the *āpta* may have an ultra-refined, or “purified” sense capacity, the sense faculties are not essential in the “art” of diagnosis, rather, in a yogic fashion, the senses are transcended. Rather, Dr. V. touches in his practice for the purposes of clinical documentation and pedagogy.

The most senior practitioner I interviewed, Dr. N., a physician in his sixties who runs his own Āyurvedic hospital and outpatient treatment center, identified as a *vaidya*. At the same time, he spoke of “old *vaidyas*” who are temporally removed from the present and possess an even more idealized sensory capacity than himself. While Dr. N. experiences his senses as highly attuned, he was instructed by his *guru* to practice pulse examination for over two decades before using it as a basis for diagnosis. All of the physicians who mentioned pulse diagnosis noted that it is a perceptual skill refined through personal practice and requiring additional training from a *guru* beyond the BAMS curriculum. Dr. N. explained seeing, touching, and questioning in terms that reflect yoga philosophy, emphasizing the importance of meditation as a mechanism to expand the mind's perceptive capacity, and he gestures towards a synesthetic experience both through and beyond sight and touch.

When we touch something, that gives the real feeling of life itself irrespective of the part we touch. Even if I touch your aura, I can diagnose.... The next level is sounds. I can hear. My sounds and your sound can talk. This is not only *praśna*.... In terms of *darśana*, it relates to *agni* (digestive fire).... I'm touching epidermis. It is not deep. I can touch to *majja* (marrow),<sup>65</sup> I can touch anywhere.... That level of touch can be developed, mainly through *dhyāna* (meditation).... If you have very good *agni* then *darśana* is different. You open the third eye and see. Close eyes and see. I can see what is happening in my home from here.... A *vaidya* could hear the carotid artery sound. You can hear it with a stethoscope making a sound and know that the person will get facial paralysis.... All [modern technologies] have actually killed the efficacy of our sense-organs. Old *vaidyas* can hear all sounds. How many sounds are coming from our body? Each and every cells are producing sounds. If we could hear them with internal ears.... What do you touch with? First of all, the body, not only the hands, why not with the shoulder.... My mind can go into other systems easily, it can pierce into a system. This technique, allopathy is using in a minute quantity. Why do we go to an experienced doctor (*vaidya*)? He can see many

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<sup>65</sup> Key to an Āyurvedic understanding of the body is the system of seven tissues (*dhātus*) as successive by-products of metabolism: *rasa* (chyle), *rakta* (blood), *māmsa* (flesh), *medas* (fat), *asthi* (bone), *majjan* (marrow), and *śukra* (reproductive tissue). In his careful study of the body's constituents, Phillip Maas compares similar lists across genres of literature, noting that even within the classical Āyurvedic treatises, there is variation. Maas, “The Concepts of the Human Body and Disease in Classical Yoga and Āyurveda.”

things without an MRI or lab tests.... Usually people come with tests. Usually I don't send anyone [for lab tests], but we have to be in a system (i.e., coexisting and interacting with allopathy) gracefully and intellectually, we must be able to communicate.

Dr. N.'s discussion here mentions a number of the factors to be examined (*parīkṣyabhāvas*) by the physician in relation to the *doṣas* as explained in the *Aṣṭāṅgahṛdaya Sūtrasthāna* 12.67–68, such as tissues (*dhātus*) and waste products (*malas*) vitiated by the *doṣas* (termed *dūṣyas*), place (location of the patient) (*deśa*), season and time of day (*kāla*), digestive force (*anala*), nature or constitution (*prakṛti*), age (*vayas*), quality of the mind (*sattva*), habit (*sātmya*), diet (*āhara*), and stage of the disease (*avasthā*). However, Dr. N.'s exposition foregrounds the importance of the trained sensory capacity of the physician, taking a number of these factors into account in relation to the physician rather than the patient, such as digestive fire (*anala/agni*), nature, habits, and especially the physician's quality of mind, potentially refined through meditation. He describes these factors in relation to an idealized authoritative individual (*āpta*). He gets at the crux of the *sensory negotiation* taking place, the need to “be in a system gracefully and intellectually” with allopathic medicine and with the idealized *vaidya* simultaneously.

Dr. N.'s and Dr. V.'s mention of *tapas* and sensory purification for the cultivation of touch as a form of extrasensory perception provides a bridge between the physician and the *āpta* through the promise of transformation offered by practice. It also indicates the complex imbrication of contemporary forms of Yoga, Tantra, and Āyurveda in some sites of practice.<sup>66</sup> This is a promise extended within the *Carakasamhitā* itself in a series of verses, *Śārīrasthāna* 1.137–155, translated and studied in detail by Dominik Wujastyk and discussed in Chapter Two of this dissertation.<sup>67</sup> This passage on yogic self-cultivation immediately follows the statement (mentioned above) that touch and mental contact are the two forms of contact causing sensations of well-being and illness (*Carakasamhitā Śārīrasthāna* 1.133). This is testament to the centrality of both touch and the possibility of its transcendence. Dominik Wujastyk shows that these verses offer an eightfold yogic path with Buddhist elements predating the well-known *Yoga Sūtras* of Patañjali. His translation of verse 142 reads, “Liberation comes from the absence of passion (*rajas*) and lethargy (*tamas*), due to the disappearance of potent karma. The disjunction from all conjunctions is called non-rebirth.”<sup>68</sup> From *Sūtrasthāna* 11.19 we know that the *āpta* is an individual with a mind free from passion and inertia/lethargy achieved through *tapas*, and Wujastyk's translation suggests *tapas* should not be understood in the sense of “austerities” or “penances,” but rather as meditation, providing a mechanism for an individual to practice toward this idealized state. This passage provides the basis for a suggestive identification of the *āpta* of the *Sūtrasthāna* with the *yogin* of the *Śārīrasthāna*.

Joseph Alter also argues that Āyurveda operates through an ontological framework in which there is a model of an unreachable “metaphysical fitness,” a mode of “radical self-improvement,” toward a state of superhuman perfection.<sup>69</sup> The way that the contemporary Āyurvedic physicians I spoke with explained authoritative teaching in relation to the training and utilization of their own senses reflects this notion of striving toward an idealized state. But it also crystallizes that unreachable state as the foundation for all knowledge and medical practice. At

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<sup>66</sup> See Alter, *Yoga in Modern India*.

<sup>67</sup> Wujastyk, “The Path to Liberation Through Yogic Mindfulness in Early Āyurveda.”

<sup>68</sup> Wujastyk, 40.

<sup>69</sup> Alter et al., S44.

stake in Āyurvedic physicians' choice of diagnostic techniques is their understanding of the nature of authoritative teaching in relation to their own sensory perceptive capacities. Whether a physician bases her or his diagnostic process on the epistemic virtues of classical treatises or a human *guru*, on that of diagnostic imaging and laboratory tests, or on some combination of these means of knowledge, reflects their own embodied epistemological position. This relationship to knowledge and the senses entails what I am calling a *sensory negotiation*, converging on the physician's body as a site for the making of truth claims, and for the practice and experience of Āyurvedic medicine. Perhaps in this space which entails both rooting and innovation—orientation toward the past and present—we can conceive of Āyurveda in India today not as in a state of crisis, but in a state of innovative evolution.

### **Conclusion: *yukti* as an Epistemic Remedy**

Key to the adaptive comportment of physicians is the concept of *yukti*, which was often employed to describe a subjectively situated reasoning as a means of valid knowledge. The concept of *yukti* functioned to enable physicians to position and legitimate their practice of medicine in relation to the two epistemological ideals of *āpta* and biomedical diagnostic technologies. While the latter is understood to play—in Donna Haraway's words—"the god trick of seeing everything from nowhere," a "myth" put "into ordinary practice," the former is able to see everything from the omniscient somewhere that is the *āpta*.<sup>70</sup> Rather than positing one omniscient or objective view as constituting authoritative knowledge, the concept of *yukti* is engaged and reimaged to provide physicians with an epistemological basis for a dynamic but coherent convergence of their multiple perspectives, roles, and axes of identity.

In the *Carakasamhitā*, *yukti* is defined as an instrument of valid knowledge entailing the drawing together of causal strands to reach a conclusion. In its classical iteration, *yukti* is imagined as a form of higher reasoning that is not predicated on sensory perception, but that is still embodied insofar as the intellect (*buddhi*) and body are both regarded as material. In its contemporary use among the physicians I spoke with in Kerala, the concept of *yukti* gives the physician as a multiple subject a basis to understand and position their own practices of knowing. As such it is located, embodied, and multiple, but it also bears reflections of the classical meaning, providing an epistemic remedy to the problem of perceived sensory limitations, or what Dr. B. calls, "domestication."

Āyurvedic lineages of practice in relation to the classical treatises are more complex, regionally variant, and discontinuous than portrayed by Dr. B. in the chapter's introduction, as he describes Āyurveda as a three-thousand-year-old static medicine that has "no upgrading." The histories of Āyurvedic philosophies and practices vary across India and have been intertwined with that of medicines such as Siddha, Unānī, and biomedicine. In colonial and independent India, and audible in my study in the way practitioners in Kerala refer to biomedicine as "modern" medicine, Āyurveda has been situated, in Akhil Gupta's terms, as "the Other of 'the modern,'" as both "traditional" and "indigenous." As in Gupta's study of post-colonial agriculture in India, "while 'the traditional' is defined as the lack of modernity, 'the indigenous' is defined as what modernity lacks. It is defined not by excess but by the failure of modernity."<sup>71</sup> We can see this tension in Dr. B.'s simultaneous reading of Āyurveda as a tradition lacking

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<sup>70</sup> Haraway, "Situated Knowledges," 590.

<sup>71</sup> Gupta, *Postcolonial Developments*, 180.

“upgrading,” and as potently indigenous, in his own rejection of “modern” diagnostic techniques and simultaneous validation of *yukti*. As Dr. B. explained of his practice,

Only once in my life I wrote a CT scan—for a small child. That is the only case I have used some modern diagnosis. Most of the cases I can get. I can diagnose without seeing a diagnosis. You can guess about it. In Āyurveda they tell about using *yukti*. After learning about techniques, [learning] about the body (he listed Āyurvedic components of the body) ... after a long time you can diagnose correctly.

It is in this space of reasoning, *yukti*, performed on the basis of authoritative knowledge, sensory perception, and one’s own practical experience, that Dr. B. performs diagnosis and practices Āyurveda in the face of competing epistemologies.

Let us return briefly to the passage describing *yukti*, discussed in the prior chapter, *Carakasamhitā Sūtrasthāna* 11.23–11.25.

From the conjunction of water, ploughing, seed, and season, grain arises. In this way, the fetus arises from the conjunction of the six elements, [this is] reasoning (*yukti*). Fire arises from the conjunction of the fire-kindler, kindling wood, and the person churning. The application of reasoning (*yukti*), in relation to the excellence of the “four pillars,” destroys disease. Reasoning (*yukti*) is cognition that recognizes existence arisen from the conjunction of many causes. It is to be understood as referring to the three [modes of] time. In which manner, “three beneficial pursuits” are accomplished by it.<sup>72</sup>

Based on this description, it is not immediately clear how this form of reasoning differs from inference, although in the description given for inference it is qualified as “preceded by sensory perception” (*pratyakṣapūrvam*). Indeed, Cakrapāṇidatta is troubled by *yukti*, and perhaps, trying to assimilate this model to that found elsewhere in the treatise, or to Nyāya epistemology, presents arguments that *yukti* is not a distinct *pramāṇa*. Rather, he claims it is included in the list because it assists the other three *pramāṇas* (*pramāṇasahāyatvena*). At length, he cites the eighth-century Buddhist philosopher Śāntarakṣita and his commentator Kamalaśīla’s position that *yukti* is merely a form of inference. P. S. Filliozat discusses these commentarial passages, arguing that for these Buddhist thinkers there was a conceptual “prerequisite of the invariable concomitance of the two terms [cause and effect] in order to establish the causal relationship.”<sup>73</sup> This anachronistic interpretation erases the distinction posited by Caraka, whereby inference is predicated on concomitance, for example of seed and fruit, and *yukti*, in contrast, is predicated on

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<sup>72</sup> *jalakarṣanabījartusaṃyogāt sasyasaṃbhavaḥ |  
yuktiḥ ṣaḍdhātusaṃyogād garbhāṇām saṃbhavas tathā || (CS Sū 11.23)  
mathyamanthana(ka)manthānasamnyogād agnisambhavaḥ |  
yuktivyuktā catuṣpādasampad vyādhinibarhaṇī || (CS Sū 11. 24)  
buddhiḥ paśyati yā bhāvān bahukāraṇayogajān |  
yuktis trikālā sā jñeyā trivargaḥ sādhyate yayā || (CS Sū 11.25)*

For a discussion of this translation of “*trivarga*” see footnote 139 in Chapter Two of this dissertation.

<sup>73</sup> “... le préalable de la concomitance constante de deux terms pour établir la relation de causalité.” Filliozat, “Yukti,” 40.



known causal relationships.<sup>74</sup> Cakrapāṇḍatta's own analysis assimilates *yukti* to *uha*, commonplace thought or conjecture.<sup>75</sup> So for these intellectuals approximately a thousand years ago, the inclusion of *yukti* as a separate means of valid knowledge in the *Carakasamhitā*, and nowhere else, was a problem, a challenge to the treatise's authoritative status. They had to interpret it away.

Rather than posing a problem for contemporary practitioners, *yukti* seems to present a solution and a means to a valid situated knowledge. P. S. Filliozat, who critiqued these commentators as moving Caraka away from the practical to the purely philosophical, writes of his father's work, "J. Filliozat wanted then to return to this intention, to this life of the Indian physician of antiquity who reflected on the practical way in which he worked to acquire new knowledge."<sup>76</sup> Analyzing *yukti* as coming from the verbal root √*yuj* (join, prepare, employ), he notes that "one aspect of its meaning is a descriptive, explanatory hypothesis."<sup>77</sup> This type of meaning for *yukti* is found in *Carakasamhitā Sūtrasthāna* 26.31, where the term is included in a list of forty-one properties (*guṇas*) impacting efficacious treatment, glossed by Cakrapāṇḍatta as "preparation, proper arranging/making of medicine with respect to the illness (*doṣa* etc.)."<sup>78</sup> And P. S. Filliozat explains how *yukti* works in relation to inference,

*Yukti* extends inference, multiplies it, and in this way, differs from it. The more the object targeted by the investigation moves away from the possibilities of direct observation or immediate inference, the more complex the instrument of investigation becomes. That is when it becomes *yukti*.<sup>79</sup>

*Yukti* is a tool for engaging complexity, multiple views and multiple points of information, for bringing them together into a cohesive means for knowledge. As such, it is a practical and adaptable tool, providing physicians in the course of practice a valid basis for maneuvering in complex situations.

Contemporary Āyurvedic physicians in Kerala are operating in a field of multiple forms of knowledge and authority, with complex histories and intersectional axes of identity. For political and practical reasons, they need a basis for staking claims to valid knowledge in the face of the intertwined hegemonies of biomedicine and experimental science. This plays out in practitioners' embodied experiences of diagnosis, of practice, and in the varied ways that they inhabit their lives as practitioners of what is regarded as the "traditional" or "indigenous" science of Āyurveda. Linguistic anthropologist Matthew Wolfgram argues that is precisely through "the recurrent contestation of truth claims which crosscut the disciplines" that a productive boundary between Āyurveda and, in Charles Leslie's terms, "cosmopolitan medicine," is maintained.<sup>80</sup>

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<sup>74</sup> Filliozat, 40.

<sup>75</sup> *evam anena bhavitavyam ity evaṃrūpa ūho 'tra yuktiśabdenābhidhīyate ... Carakasamhitā*, 72.

<sup>76</sup> "J. Filliozat voulait donc revenir à cette intention, à cette vue du médecin indien de l'antiquité qui réfléchissait sur la façon pratique dont il travaillait à acquérir de nouvelles connaissances..." Filliozat "*Yukti*," 44.

<sup>77</sup> "d'un certain aspect la *yukti* est une hypothèse descriptive, explicative." Filliozat, 44.

<sup>78</sup> *yuktiś cety ādau yojanā doṣādyapekṣayā bheṣajasya samīcīnakalpanā ... Carakasamhitā*, 141.

<sup>79</sup> "La *yukti* prolonge l'inférence, la multiplie et à ce titre s'en distingue. Plus l'objet visé par l'enquête s'éloigne des possibilités d'observation directe ou d'inférence immédiate, plus l'outil d'investigation devient complexe. C'est alors qu'il devient. *yukti*." Filliozat, "*Yukti*," 45.

<sup>80</sup> Wolfgram, "Truth Claims and Disputes," 150.

This contestation is an ongoing “labor” that must be performed both in my study and in Wolfgram’s through, specifically, “school educated Āyurveda practitioners.” I would argue that in the conceptions of the physicians I cite here, *yukti* is part of the performance of this labor.

Burton Cleetus has argued that in the precolonial period *yukti cikitsa*, treatment based on reasoning was the central means of practice for “indigenous medicine,” and that physicians were “operating under a broader epistemic space” in which each *vaidyan*, or physician, had their own form of *yukti* that rendered their medicine efficacious.<sup>81</sup> Wolfgram argues that over the course of the colonial and postcolonial periods, there was a bifurcation between the authority of *śāstra* (text) along with *anubhava* (physicians’ experience) and that of *yukti*, the latter coming to be equivalent to a “cosmopolitan” epistemology of biomedicine.<sup>82</sup> In his linguistic analyses of excerpts from Malayalam speeches and exchanges at a scientific conference on “the role of Ayurveda and folk medicine in the development of modern style pharmaceuticals,” people don’t use these terms.<sup>83</sup> Rather, he argues that claims made in Malayalam on the basis of *anubhava* (physicians’ experience) are expressed using locative nominal declensions and past tense verb forms, and that claims made on the cosmopolitan basis of *yukti* use future verb tenses, expressing universality.<sup>84</sup> Malayalam, a Dravidian language, has assimilated many Sanskrit words into its vocabulary. This association of *yukti* with a “cosmopolitan rationality” in Malayalam is addressed by a statement made by one of my colleagues, Dr. L., regarding a colloquial Malayalam use of the term. Dr. L. is faculty at a Government Ayurveda College, and when the government of Kerala flipped from Congress UDF to Communist LDF control in 2016, he was virtually required to join the party association at the college. The noun *yuktivādi*, he noted, means rationalist and “communists use it to describe themselves,” as people who believe in “science.” He said, “In this case the primary *pramāṇa* is *pratyakṣa pramāṇa*—what you can see. There is a confusion between *yuktivādi* and Carvaka *darśana*.” (Carvaka *darśana* is a materialist philosophical school contemporaneous to the *Carakasamhitā*.) Here he is saying that *yukti* as rationality gets assimilated to a kind of empirical materialism. This conventional Malayalam usage resonates with Wolfgram’s findings at the scientific conference.

However, in my interviews conducted in English sprinkled with Sanskrit terms, *yukti* manifested differently when people used the Sanskrit term in reference to the *pramāṇas*. *Yukti* was a form of situated rationality taking into account the multiple subject positions of the physician; it is performance of that position and, as such, is inflected differently by different physicians. As Murphy Haliburton notes, “While Indian philosophy is to some degree an elite discourse, interviews with people in Kerala reveal that features of literate Indian philosophy and phenomenology also exist in popular discourse.”<sup>85</sup>

For Dr. B. and Dr. N. it takes on a meaning directly inverse from Wolfgram’s findings, *yukti* is something that comes only with study of *śāstra/āptopadeśa* (authoritative testimony) and extensive experience (*anubhava*). Recall, again, Dr. B.’s statement above:

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<sup>81</sup> Cleetus 2007, 151.

<sup>82</sup> Wolfgram explains that in the colonial period Āyurveda was often portrayed as purely empirical (*anubhava*) with no theoretical basis (*yukti*). In the 1930s Gananath Sen uses this point to argue for the superiority of Āyurveda over British medicine. Wolfgram, “Truth Claims and Disputes,” 153.

<sup>83</sup> Wolfgram, 154.

<sup>84</sup> Wolfgram, 151.

<sup>85</sup> Haliburton, *Mudpacks and Prozac*, 143.

Only once in my life I wrote a CT scan.... Most of the cases I can get. I can diagnose without seeing a diagnosis. You can guess about it. In Āyurveda they tell about using *yukti*. After learning about techniques, [learning] about the body (he listed Āyurvedic components of the body) ... after a long time you can diagnose correctly.

Dr. B. understands the image of the CT scan itself as a diagnosis, effectively erasing the trained interpretive work of the image reader, the radiologist. The CT scan is an unmediated, uninterpretive, and rejected mode of diagnosis. For Dr. B., *yukti* is a distinctly Āyurvedic or “indigenous” form of reasoning that would be foreclosed by the “black box” of the CT scan—a form of “guessing” necessarily informed by the conjunction of *śāstra* and *anubhava*. Dr. N., senior-most among the physicians I interviewed and someone who had undergone both BAMS and the traditional *gurukula* style of education where the student lives and practices with their teacher for years, mentioned *yukti* to me as “logically replicable models, vis-à-vis *śāstra*.” In his view, in alignment with Dr. B., study of the texts and with a guru are a prerequisite for the capacity to use *yukti*.

For three other physicians, the palate of causal connections one might draw upon in the process of *yukti* selectively assimilates multiple epistemologies according to the context-contingent subject positions and visions of the physician. Dr. A., a young female physician who did her postgraduate degree in Saṃhitā (and thus has studied the Āyurvedic treatises in detail in Sanskrit), saw the use of *yukti* as binary:

There are two categories of people. One category of people who think Āyurveda is enough to diagnose. They wouldn't bother about these reports. Other people want to have them as comparison, either to confirm their own diagnosis, or make the patient feel better.... It all depends on the *yukti* of the practitioner, there are some people very rigid they don't want to accept any other science systems, or there will be people who will look into other systems but their [Ayurvedic] thinking will be there.

In this case, *yukti* figures as a space for the integration of epistemologies in the physician's own choice of which datum to reason with. Dr. L., who explained “*yuktivadi*” above, makes a similar claim, “*Yukti* is a logic but we can't just use it. *yukti* always works in perspective with a *siddhānta* (teaching). Suppose I am explaining something about the heart. Either I have to use it with reference to a *darśana*, like *Samkhya*, *Vaisesika*.... Or it will work in terms of modern anatomy.” Like Dr. A., he went on to say that *yukti* is also the physician's choice of what kinds of diagnostic methods to use. “*Yukti* is providing more freedom in using the *pramāṇas*. We cannot be sticking on so strict with it.”

Another physician, a young woman who is Muslim, in some ways synthesizes these two perspectives, emphasizes the meaning of *yukti* in practice as both a *guṇa* and an epistemic basis. For her, *yukti* is a long-acquired skill that shows the refined and accumulated capacity of the physician to assimilate all available information towards the implementation of the most minimal and specific treatment. Her vision of *yukti* is very much like the art of a master programmer for whom the fewest lines of code can accomplish the desired outcome. She gave me a detailed example of an ulcer with particular characteristics and how she would assess that along with other information from the patient to decide upon a treatment, in a deductive process. “That is the *yukti* of the doctor to select one drug for the patient after taking all the options. What is left, what is remaining—after BP, after diabetes. What is left. That is the *yukti* of the doctor.” This

form of practice is perhaps best illuminated by her description of its opposite.

There is one doctor in our hospital. With him, around eight and nine medicines will be going at the same time. It's for this, it's for that. Actually, he is beating around the bush throwing many stones at one point so that something will hit. In that condition, you can't say *yukti* is being used.

This latter physician is not improperly practicing Āyurveda, but they are not doing it with the elegance of *yukti*. It is interesting to note that in this physician's use of the term *yukti* is understood as a kind of black-boxing through the performance of professional expertise.

For contemporary conventionally educated physicians in Kerala whom I spoke with, *yukti* is a resolution to the embodied crisis of diagnosis and *sensory negotiation*. It is a form of rationality, that is necessarily situated in physicians' embodied practice of Ayurvedic medicine, in a complex and personal relationship to the "modern" and its "traditional"/"indigenous" other. Here, I resist an analytic of hybridity, for as Bruno Latour points out, to translate into a hybrid form we must already be recruited into the "two great divides" of the modern.<sup>86</sup> Rather, in their diverse self-fashioning, these practitioners prompt us to think with temporality in less linear and clearly bifurcated modes, in Barad's terms, as "entangled relationalities of inheritance."<sup>87</sup> *Yukti* is an inheritance enabling and empowering a medical practice, constantly refracted and reflected with variously imagined Ayurvedic pasts, presents, and futures, and an epistemic remedy to ameliorate the challenges of *sensory negotiation*.

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<sup>86</sup> Latour, *We Have Never Been Modern*, 97.

<sup>87</sup> Barad, "Quantum Entanglements and Hauntological Relations of Inheritance," 264.

## CHAPTER FOUR

### Touching Hands: Tactility and Expertise in Early Āyurvedic Treatment

The previous two chapters have focused on touch as a means of knowledge in Āyurvedic diagnosis. Now we turn to touch in treatment, continuing our comparison of representations of physicians' tactility and expertise in the *Carakasamhitā* and the *Suśrutasamhitā*. The *Carakasamhitā*, the general medical treatise, contains numerous passages with detailed technical information. However, it offers a paucity of description regarding touch therapies involving contact with human agents, whether doctors, attendants, or relatives. For example, we find intricate recipes for making medicated oils, decoctions, and herbal pastes, as well as instructions for how to build the perfect room for various treatments, and even how to design and use a pipe for sudation (sweating). But there is a striking lack of detail regarding many essential procedures such as *abhyāṅga* (rubbing with oil), *saṁvāhana* (rubbing), and other therapies that involve touch, including *ālepana* (anointing with paste), *basti* (enemas), and *nasya*, (nasal drops). In the *Suśrutasamhitā*, the treatise with a focus on surgery, the most detailed descriptions of touch are found in the context of passages detailing dangerous surgical procedures.

This chapter makes three main contributions. First, in part one of the chapter, I show that that reading the early Āyurvedic treatises with close attention to touch challenges conventionally held notions about classical Āyurvedic tactile therapies. We will examine and contrast the therapies of *abhyāṅga* (rubbing with oil) and *saṁvāhana* (rubbing) to learn more about the mechanisms of different forms of touch-based practices. This comparison will show that counter to the notion that (non-surgical) touch in classical Āyurvedic medicine serves solely to move medicinal substances into the body, in the classical treatises, specific forms of non-surgical touch can constitute treatment.<sup>1</sup> Second, in part two of this chapter, fleshing out the *Suśrutasamhitā*'s assertion that "the hand is foremost among instruments,"<sup>2</sup> I show that surgical touch as represented in the early Āyurvedic treatises entails a combination of quick action, precision, informed judgment, and tactile sense-ability. Through a close reading of passages describing surgical training and procedures in the *Suśrutasamhitā*, I also demonstrate that surgical tactility and expertise are represented through intertwined modes of manual and instrument-mediated touching. Third, in parts one and three of the chapter, I demonstrate that reading with attention to touch reveals specialized and gendered forms of knowledge in the early treatises. In part one we look at the special case of *saṁvāhana* to examine tactile expertise and training. In part three, building on Martha Selby's work, I consider the appropriation of gendered touch into the medical treatises, expanding the scene of care outward beyond the four pillars of physician, medicine, patient, and attendant, to "experienced women."<sup>3</sup> As we will see in parts one and two of this chapter, the imagined normative patient and physician are both male. Women appear in the treatises as part of a sensory treatment regime for male patients. However, in part two and three we will see that the trained touch of women is also evidenced in the treatise.

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<sup>1</sup> C.f. Zimmerman, "Gentle Purge: The Flower Power of Āyurveda."

<sup>2</sup> *hastam eva pradhānatamaṃ yantrāṅām* (*SS Sū* 7.3) "The most important among the tools is the hand itself."

<sup>3</sup> Selby, "Between Medicine and Religion: Discursive Shifts in Early āyurvedic Narratives of Conception and Gestation" and "Narratives of Conception, Gestation, and Labour in Sanskrit Ayurvedic Texts," 272.

## Part One: Touch in the *Carakasamhitā*, *abhyāṅga* and *saṃvāhana*

This section of the chapter builds upon the discussion of *sparśa* in chapter one to examine the nature of general (versus surgical) medical touch in the *Carakasamhitā*. First, we will examine the oleation practice of *abhyāṅga* in contemporary practice and as represented in the classical treatises in comparison with *saṃvāhana* (rubbing). This enables us to address the question of whether types of touch are represented in the classical treatises as, themselves, having efficacy in treatment.

The work of Francis Zimmerman provides a starting point for our discussion both in terms of the contemporary and ancient practices of *abhyāṅga*. Zimmerman has noted that in contemporary Āyurvedic practice in North America and India, “gentle” forms of “massage” are ubiquitously offered as treatments. This emphasis on gentle spa-style treatments is certainly true in my experience training at an Āyurvedic school in North America, and to some extent in contexts serving foreigners in Kerala. For Zimmerman, both the emphasis on “massage” and the understanding of body therapies such as *abhyāṅga* (rubbing with oil) as forms of “gentle” massage are misinterpretations of the classical treatises. He argues that, in contrast to a contemporary emphasis on “gentle” therapies, the emphasis in both the *Carakasamhitā* and the *Aṣṭāṅgahṛdaya* is on evacuative (*śodhana*) therapies, not on pacifying (*śamana*) therapies. “There is a violence inherent in medical operations,” Zimmerman explains, and he views the “gentle” emphasis in contemporary practice as part of the historical Brahminization of the medical tradition.<sup>4</sup> This tendency to regard the classical treatises as the sole representations of “authentic” Āyurveda elides the distinctive local histories and, in Mukharji’s terms, “braidings” of Āyurvedic medicine, particularly the incorporation of practices that evolved in Kerala, for example *pīlicchil* (*Mal.* pouring and rubbing oil onto the body) (one of Zimmerman’s main examples) into contemporary practice.<sup>5</sup>

Explaining that the primary purpose of practices like *abhyāṅga* is to transfer substances and their properties into the human body, Zimmerman describes a “misunderstanding” in the contemporary practice of this therapy:

The classical techniques of oleation and sudation stressed the skin and tissues, but the bony framework and articulation have now become the focus of attention. A misunderstanding occurs in using the term *massage* to refer to Āyurvedic baths, inunctions, and embrocation. The underlying idea is that the skin is a path through which remedies are absorbed and humors are exuded. The concept of classic Āyurvedic massage is of a fluid metabolism through the skin, not mechanical pressure exerted on the muscles.<sup>6</sup>

My experience training in Āyurvedic body therapies at the California College of Ayurveda in 2009 (CCA) and at a clinic in Southern Kerala nuances this reading of contemporary practice. In each of these two very distinct contexts, the stated purpose and kinesthetic intention of the practitioner is to pacify wind (*vāyu*), and specific strokes were used to create friction and heat to open pores, allowing oil into the body. This is in accordance with Zimmerman’s statement regarding the classical notion of skin (*tvac*) as the main seat of *vāyu* through which channels are

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<sup>4</sup> Zimmerman, “Gentle Purge,” 213.

<sup>5</sup> See Mukharji, *Doctoring Traditions*, and “Introduction” of this dissertation.

<sup>6</sup> Zimmerman, “Gentle Purge,” 212.

opened for the movement of oil into the body. However, in both contexts there was also an emphasis on the specific strokes used to move *vāyu*. At CCA, we were instructed that the direction, pressure, delivery, and type of each stroke worked to regulate and balance one of the five types of *vāyu*, or *vāta*.<sup>7</sup> For example, long, firm, downward strokes were practiced to regulate *apāna vāyu*, which has its seat in the colon and is responsible for downward movements in the body. When points on the body were specifically addressed in the context of *abhyāṅga*, it was through the anatomical mapping of *marman*, vital points, rather than biomedical anatomy, and it was usually part of a separate *marman* therapy treatment. While the vital points are mentioned in the classical treatises,<sup>8</sup> vital point massage evolved in Kerala as part of the practice of *kaḷarippayattū* for the treatment of warriors and those practicing this martial art form. In contemporary Kerala, when *marman* therapy is practiced, it draws from *kaḷarippayattū*, or from the well-developed lineages of *marman* therapy in Tamil Siddha medicine.<sup>9</sup> Furthermore, in Kerala, the practice of evacuative therapies as part of *pañcakarman* (five-actions) is a mainstay of many inpatient clinics, and oleation and sudation are often used as the requisite precursor in order to aggravate the *doṣas* so that they can be eliminated through those more intense therapies.<sup>10</sup>

The procedure of *abhyāṅga*, often practiced with a partner using matching movements, requires training and practice. Most commonly in India today, Āyurvedic treatments such as *abhyāṅga* are performed by trained therapists. They may have been formally trained through the official Therapist Certificate course at an Āyurveda college or through a lineage teacher. In both Karnataka and Maharashtra, I visited clinics where they had brought in therapists trained in north Kerala through lineage training to perform the body therapies for their clients.

### ***Rubbing with Oil (abhyāṅga)***

In addition to his arguments about contemporary practice, Zimmerman also argues that in the context of the early treatises, the therapies of oleation and sweating are prescribed only as preparation for evacuative therapies.<sup>11</sup> While this is often the case, in the *Carakasamhitā*, oleation is represented as having two modes: 1) pacifying (*śamana*), and 2) as preparation for purifying (*śodhana*) evacuative treatments through which the disease-causing *doṣas* are aggravated and then expelled from the body. In both cases the oleation has external and internal components, including the ingestion and external application of fatty substances such as ghee (*ghṛta*), muscle fat (*vasan*), marrow (*majjan*), sesame oil (*taila*), or oily preparations (*CS Sū* 13.13). *Abhyāṅga* is one of twenty-four types of oleation (*CS Sū* 13.23–25). Oleation is used not only as a preparation for evacuation therapies, but also as a treatment in and of itself, in particular, for illnesses with an etiology of *vāta* vitiation. As the treatise explains, “Oleation should be (given) to those who are undergoing sweating or evacuation therapy, those who are dry, those with illnesses caused by *vāta*, those always [engaged] with activity, wine, and/or women, and those who are anxious.”<sup>12</sup> In the *Carakasamhitā*, the chapter on internal and

<sup>7</sup> Each of the *doṣas* is understood to have five forms residing in different parts of the body and responsible for different physiological functions, for example, in the case of the five *vāyus*, *prāṇa*, *apāna*, *samāna*, *udāna*, and *vyāna* (*CS Sū* 12.8).

<sup>8</sup> For example, see *SS Śā* 6.

<sup>9</sup> Zarrilli, *When the Body Becomes All Eyes*.

<sup>10</sup> On *pañcakarman* in the classical treatises see *CS Sū* 2.1–15 and *SS Ci* 33.

<sup>11</sup> Zimmerman, “Gentle Purge,” 212–213.

<sup>12</sup> *svedyāḥ śodhayitvyās ca rūkṣā vātavikāriṇāḥ* |

external oleation (*sneha*, *Sū* 13) is followed by a chapter on sweating (*sveda*, *Sū* 14), and preceded by a chapter on *vāta*, or wind, as a cause of disease and as a force in the natural world (*vāyu*) (*Sū* 12). Oleation and sweating go hand in hand to pacify *vāta*, as sweating opens channels allowing the oil into the body. When they are practiced as a preparation for evacuative procedures, oleation and sweating are understood to cause excitement or aggravation (*utkleśa*) of the *doṣas*.

There is a paucity of information about what *abhyāṅga* entails as represented in the classical treatises, but much can be learned by looking at descriptions and context given for the practice. The term *abhyāṅga* derives from the verbal root  $\sqrt{aṅj}$  meaning to anoint, or according to Monier-Williams “to apply an ointment or pigment, smear with, anoint.”<sup>13</sup> The noun *añjana*, meaning the act of applying an ointment or collyrium, as well as the substance of collyrium, is derived from this root. According to Apte,  $\sqrt{abhyāṅj}$  means “to smear or anoint with oily substances,” and Monier Williams gives definitions including, “to smear, anoint, etc., to anoint oneself.”<sup>14</sup> The term *abhyāñjana* indicates “rubbing with unctuous substances, inunction,” or again, the substance itself, “unction.”<sup>15</sup> According to Whitney, *abhyāṅga*, a synonym for *abhyāñjana*, is another derivation from the verbal root  $\sqrt{aṅj}$ .<sup>16</sup> While the term *abhyāñjana* is found in the *Carakasamhitā* over twenty times, the term *abhyāṅga* is the more commonly used technical term in the treatise, referring to rubbing with oil, occurring over one hundred times. If we examine the meaning of the word *abhyāṅga*, we can see that it is a practice in which substance is co-extensive with action. This relates not only to the basic Vaiśeṣika categories of substance (*dravya*), attribute (*guṇa*), and action (*karma*), but also to the ways that bodies, and in turn subjectivities, are materialized through intra-action with substances in practice.

We find information about the benefits of external oleation in refining the body and shaping one’s self as a subject—in particular, the practice of *abhyāṅga*—in a lengthy chapter on *mātrāsītīyam* (literally, “measured-eating”) in the *Carakasamhitā*. The chapter details a wholesome daily regime for a well-to-do male, the normative patient as imagined throughout most of the treatise, excluding the sections on gynecological diseases, pregnancy, and childbirth. This regime includes descriptions of the following practices: proper diet and eating habits, application of collyrium (*añjana*), herbal smoking (*dhūma*), nasal oleation (*nasyakarman*), oral cleaning, including teeth cleaning (*danta viśodhana*), using a tongue scraper (*jihvānilekhana*), keeping herbs in the mouth (*phalāni dhāryāṅy āsyena*) and gargling with oil (*ganḍūṣa*), using oil on the head (*mūrdhni tailaniśevaṇa*), aural oleation (*karṇatarpaṇa*), rubbing with oil (*snehābhyāṅga*), rubbing the body with powder (*śarīraparimārjana*), bathing (*snāna*), wearing clean clothes (*nirmalāmbaradhāraṇa*), using fragrances and garlands (*gandhamālyaniśevaṇa*), wearing of jewels and ornaments (*ratnābharaṇadhāraṇa*), constantly cleaning feet and pathways of waste (*pādayor malamārgāṅām śaucādhāna*), cutting head and facial hair and nails (*keśaśmaśrunakhādīnām kalpanam samprasādhana*), wearing shoes (*pādatradhāraṇa*), carrying an umbrella (*chatradhāraṇa*), and carrying a staff (*daṇḍadhāraṇa*).

The verses on oleation begin with oral oleation, rubbing oil on the head, and then describe the benefits of *abhyāṅga*:

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*vyāyāmadyastrīṇityāḥ snehyāḥ syur ye ca cintakāḥ* || (*CS Sū* 13.52)

<sup>13</sup> Monier-Williams, *A Sanskrit-English Dictionary*, 11.

<sup>14</sup> Apte 130; Monier-Williams, *A Sanskrit-English Dictionary*, 75.

<sup>15</sup> Monier-Williams, *A Sanskrit-English Dictionary*, 75. Mayrhofer, *Etymologisches Wörterbuch des Altindoarischen*, 54.

<sup>16</sup> Whitney, *The Roots, Verb-Forms and Primary Derivatives of the Sanskrit Language*, 2.



Just as a pot under stress (*kleśasaha*) becomes strong from rubbing with oil (*snehābhyāṅga*), a hide under stress becomes strong from pressing with oil (*snehamardana*), and an axle under stress becomes strong from greasing (*upāṅga*), similarly, through rubbing with oil (*abhyāṅga*), one engenders a body that is strong and has good skin, is equal to exertion and stress, and in which wind-afflictions are pacified.<sup>17</sup> In [the faculty of] touch, wind is pre-eminent and [the faculty of] touch dwells in the skin. And rubbing with oil (*abhyāṅga*) is extremely conducive to the health of the skin (*tvacya*), therefore a man should practice it.<sup>18</sup> And the body of one practicing oil rubbing (*abhyāṅga*), afflicted by injury, never suffers serious illness, nor in case of any actions performed with exertion.<sup>19</sup> And by regularly rubbing with oil (*abhyāṅga*) a man becomes one who is nice to touch, with thick limbs, strong, attractive in appearance, and only aging slightly.<sup>20</sup>

In this passage, the action and effect of “*abhyāṅga*” performed on the human body are likened to rubbing with oil (*snehābhyāṅga*), pressing with oil (*snehamardana*), and greasing (*upāṅga*) of a pot, hide, and axle, respectively. When the term *abhyāṅga* appears on its own in the verses, it appears to be a synonym for *snehābhyāṅga*, both terms meaning “rubbing with oil.”<sup>21</sup> The process involves both the application of an oily substance and also the action or rubbing. As such, the process acts through the association of wind, touch, and skin that we examined in chapter one. The oil and friction produced in the application of oil bring oily, heavy, moist, warmth to counteract the dry, light and cool qualities of *vāta*. Skin, as the abode of the sense faculty of touch, is the site for this interface. And *sparśa* is at once the sense faculty impacted, the sense object received, and the action taken at the site of the skin.

In the context of this description of a preventative daily self-care regime for a normative male person, it appears that *abhyāṅga* is a form of rubbing one’s body with oil practiced by the man (*nara*) himself. As translated above, *Carakasamhitā Sūtrasthāna* 5.85–89, which describes oleation as part of a healthy daily routine, suggests self-touch as a mechanism for the application of oil and its attendant properties to the body. However, in other contexts, the text prescribes *abhyāṅga* in the course of a medical treatment, suggesting that in these cases, *abhyāṅga* would

<sup>17</sup> *snehābhyāṅgād yathā kumbhas carma snehavimardanāt | bhavaty upāṅgād akṣas ca dṛḍhaḥ kleśasaho yathā || (CS Sū 5.85)*

*tathā śarīram abhyāṅgād dṛḍham sutvak ca jāyate | praśāntamārutābādham kleśavyāyāmasaṃsaham || (CS Sū 5.86)*

<sup>18</sup> *sparśane ’bhyadhiko vāyuh sparśanam ca tvagāśritam | tvacyas ca paramabhyāṅgastasmāt taṃ śīlayen naraḥ || (CS Sū 5.87)*

<sup>19</sup> *na cābhighātābhihatam gātram abhyāṅgasevinaḥ | vikāram bhajate ’tyarthaṃ balakarmani vā kvacit || (CS Sū 5.88)*

<sup>20</sup> *susparśopacitāṅgas ca balavān priyadarśanaḥ | bhavaty aṅganityatvān naro ’lpajara eva ca || (CS Sū 5.89)*

<sup>21</sup> This is the only use of the compound *snehābhyāṅga* in the treatise. There are two instances of the compound “*snehābhyakta*” in the *Carakasamhitā Sūtrasthāna* chapter 14 on sudation and in both cases the *sneha*, oil, is further qualified in the compound: 1) *vātaharasiddhasnehābhyaktaḥ gātra*, “one having a body rubbed with oil prepared for removal of wind” (CS Sū 14.43), and *yathārhasiddhasnehābhyaktaḥ gātra*, “one having a body rubbed with oil prepared appropriately” (CS Sū 14.44).

have been performed by another person. I will return to this issue of practitioner and training in a moment.

Attendant to its anatomical focus, the *Suśrutasamhitā* provides an explanation of the function of *abhyāṅga* in terms of the structures of the body that also highlights the importance of the movement of the treatment materials into the body. The *Suśrutasamhitā Śārīrasthāna* contains a detailed enumeration and description of the components of the human body. The description of the *dhamanīs* found in *Śārīrasthāna* chapter 9, explains that these channels are classified by their point of origin and direction of orientation in the body. For example, ten upward-moving *dhamanīs* originate in the navel and each split into three channels. Eight of these carry the perception of the four sense objects of sound (*śabda*), form (*rūpa*), taste (*rasa*), and smell (*gandha*).<sup>22</sup> The *dhamanīs* running sideways are the purveyors of the fifth sense object, touch (*sparśa*). As the treatise explains:

And of the four sideways *dhamanīs*, each splits a hundred-fold, and further [split] a thousand-fold, and these are uncountable. This body is latticed, bound, and fixed by them. Their openings are attached to the hair follicles (*romakūpapratibaddha*), by which they convey sweat and replenish fluid (*rasa*). Through these very (channels/follicles), the potencies of rubbing with oil (*abhyāṅga*), pouring (*pariṣeka*), medicated bath (*avagāha*), and medical paste (*alepana*) penetrate, ripened in the skin. And through these alone, one perceives pleasant or unpleasant touch. And those are these four *dhamanīs* that move throughout the body explained with their parts.<sup>23</sup>

The commentator Dalhaṇa further glosses the connection with touch as follows:

By means of those very (channels), followed by the mind, the one whose nature is action (self) perceives pleasant or unpleasant touch. Because they are engaged for perceiving touch, those (channels) are throughout the body. Gone there, the mind also goes through the pathways (*srotas*) of the whole body.<sup>24</sup>

The *Suśrutasamhitā Cikitsāsthāna* explains the benefits of *abhyāṅga*.

Rubbing with oil softens and obstructs *kapha* and *vāta*, generates plumpness of tissues and generates clear complexion, color, and strength.<sup>25</sup> Pouring liquid dispels fatigue,

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<sup>22</sup> There is ambiguity in this chapter because *SS Śā* 9.5 states at the beginning, that the upward moving *dhamanīs* carry sensations from all five senses, as well as other basic reflexes such as breathing, sneezing, laughing etc. Then, the passage specifies that there are eight channels functioning in the perception only of taste, form, sound, and smell.

<sup>23</sup> *tiryaggāṇāṃ tu catasṛṇāṃ dhamanīnām ekaikā śatadhā sahasradhā cottarottaraṃ vibhajante, tās tv asaṅkhyeyāḥ, tābhir idaṃ śarīraṃ gavākṣitaṃ vibaddham ātataṃ ca, tāsāṃ mukhāni romakūpapratibaddhāni, yaīḥ svedam abhivahanti rasaṃ cābhitarpayantarbaḥiś ca, taireva cābhyāṅgapariṣekāvagāhālepanavīryāṇy antaḥśarīraṃ abhipratipadyante tvaci vipakvāni, taireva ca sparśaṃ sukhamasukhaṃ vā gṛhṇāti; tās tv etās catasro dhamanyaḥ sarvāṅgatāḥ savibhāgā vyākhyātāḥ* || (*SS Śā* 9.9)

<sup>24</sup> ... *tair eva manonugataiḥ sukhāsukharūpaṃ sparśaṃ karmātmā gṛhṇīte | tāḥ sarvāṅgatāḥ sparśagrahaṇāyādihikṛtatvāt, tad gataṃ mano 'pi sarvāṅgasrotogataṃ eva* || (*Suśrutasamhitā*, 224)

<sup>25</sup> *abhyāṅgo mārḍavakaraḥ kaphavātanirodhanaḥ | dhātūnāṃ puṣṭijanano mṛjāvāṇabalapradah* || (*SS Ci* 24.30)

removes *vāta* and perfects broken joints, removing the pain of one who is wounded, burnt by fire, beaten, or rubbed sore (*vighṛṣṭa*).<sup>26</sup> Just as a layer of sprouts grows on a root from wetting with water, in the same manner, indeed, an increase in body tissues arises from a bath of oil.<sup>27</sup> Oil used in bathing gives strength to the body, satiating, through the vessels (*siras*), hair follicles (*romakūpa*), and channels (*dhamanīs*).<sup>28</sup> In reference to that, a wise man knowledgeable of disturbance to constitution, wholesomeness, season, location, should use sesame oil or ghee for rubbing with oil and pouring oil.<sup>29</sup>

Ḍalhaṇa glosses this section to explain a description of the mechanism of oil working to dispel the *doṣas*:

The section beginning with “rubbing with oil.” Here “rubbing with oil” (*abhyaṅga*) means rubbing of the entire body with oil (*sakaladehasya snehābhyaṅga*).<sup>30</sup> “Clear complexion” [means] purified glow. “Color” [means] white, etc. The occasion of oil’s restoring of the body through the openings of the channels etc., some read here: “Situated near the ends of the hairs of the body, numbering three hundred, from this it enters, oil goes to the skin through means of four [hundred channels]. And blood itself goes through those numbering five hundred. Bone should travel through six hundred, marrow travels through nine hundred. Diseases situated there (in the body) having the nature of *vāta*, *pitta*, and *kapha* should be cured.”<sup>31</sup>

Now, let us look at a cluster of terms in which we encounter *abhyaṅga* in the *Carakasamhitā* in order to infer more about the nature of the practice. The first example is found at *Sūtrasthāna* 11.55 in a description of the three types of treatment, in the context of a chapter enumerating sets of three. Here, we find a list of three types of treatment to be applied in the case of the vitiation of the *doṣas*: removal from the interior (*antahparimārjana*), removal from the exterior (*bahihparimārjana*), and the application of sharp instruments or surgery (*śāstrapranidhāna*). The list of external cleansing treatments reads as follows: “Again, external cleansing is that which, having applied external touch through rubbing with oil (*abhyaṅga*), sudation (*sveda*), smearing ointment (*pradeha*), bathing (*pariṣeka*), and pressing (*unmardana*),

<sup>26</sup> *sekaḥ śramagho ’nilahṛdbhagnasandhiprasādhakah | kṣatāgnidagdhabhihatavighṛṣṭānām rujāpahaḥ || (SS Ci 24.31)*

<sup>27</sup> *jālasiktasya vardhante yathā mūle ’ṅkurāstaroḥ | tathā dhātuvivṛddhir hi snehasiktasya jāyate || (SS Ci 24.32)*

<sup>28</sup> *sirāmukhai romakūpair dhamanībhiś ca tarpayam | śarīrabalam ādhatte yuktaḥ sneho ’vagāhane || (SS Ci 24.33)*

<sup>29</sup> *tatra prakṛtisātmyartudeśadoṣavikāravīt | tailaṃ ghrtaṃ vā matimān yuñjyād abhyaṅgasekayoḥ || (SS Ci 24.34)*

<sup>30</sup> One could read the gloss in the first line of commentary as meaning that “*abhyaṅga*” means rubbing with oil for oleation (*snehābhyaṅga*) of the entire body, however, since *abhyaṅga* and *snehābhyaṅga* seem to be used as synonyms above (see for example *CS Sū* 1.5.85–89) I am translating them as synonyms here.

<sup>31</sup> *abhyaṅga ityādi | abhyaṅgo ’tra sakaladehasya snehābhyaṅgaḥ | mṛjā śuddhaprabhā, varṇo gaurādiḥ | snehasya sirāmukhādibhiḥ śarīrasantarpanakālaṃ kecid atra paṭhanti-“romānteṣv anu dehasya sthitvā mātrāsātatrāyam | tataḥ praviśāti snehaś caturbhir gacchati tvacam || raktaṃ gacchati mātrāṇām śataiḥ pañcabhir eva ca || śatair aṣṭābhir asthīni majjānaṃ navabhir vrajet | tatra sthāñ chamayet rogān vātapittakaphātmakān” iti | Suśrutasaṃhitā, 488.*

removes waste through those means.”<sup>32</sup> As stated earlier, sudation would often follow *abhyāṅga* in order to convey oil into the body once the channels are opened by heat. The descriptions of sudation in the text make it clear that this form of treatment requires equipment and skill, and the precise method of preparation and construction of apparatuses for the thirteen methods of sudation described in *Carakasamhitā Sūtrasthāna* chapter 14, suggest that when *abhyāṅga* and sweating were performed as a set, they would have been performed with equipment and the help of attendants. All of the other practices in the list imply distinct forms of touch in terms of speed, pressure, and technique, in the application of substances. For example, distinctions are drawn between rubbing with oil, “*abhyāṅga*,” and smearing ointment, “*pradeha*,” pouring, “*pariṣeka*,” and pressing the body, “*unmardana*.”

Two additional lists containing items that involve physical contact suggest that touch involves not only the application of substances (in terms of their properties) but also the application of distinct techniques of touch. In *Nidānasthāna* 7.9 we find *abhyāṅga* as part of a longer list of procedures, in the context of a description of treatments for curable madness (*unmāda*): oleation (*sneha*), sudation (*sveda*), emesis (*vamana*), purging (*virecana*), oily enema (*āsthāpana*), decoction enema (*aunvāsana*), pacifying therapies (*upaśamana*), nasal medication (*nastahkarman*), smoking (*dhūma*), fumigation (*dhūpana*), collyrium (*añjana*), sneeze-inducing nasal powder (*avapīḍa* and *pradhamaṇa*), rubbing with oil (*abhyāṅga*), smearing ointment (*pradeha*), pouring a liquid over the body (*pariṣeka*), applying unction (*anulepana*), striking (*vadha*), binding (*bandhana*), (*avarodhana*), scaring (*vitrāsana*), surprising (*vismāpana*),<sup>33</sup> causing to forget (*vismāraṇa*), fasting (*apatarpaṇa*), and venesection (*sirāvyadhana*).<sup>34</sup> In this list, *abhyāṅga* follows (in a different order) some of the procedures found in the description of a healthy daily regimen, including nasal medication, smoking herbal medicines, and the application of collyrium, and it is followed by the same sequence of smearing ointment (*pradeha*) and pouring (*pariṣeka*) as in the prior passage. But the list then proceeds to name three distinct forms of touch, applying unction (*anulepana*), as well as the *vāta* regulating treatments of striking (*vadha*), and binding (*bandhana*). This passage also contains elements of a list that is found in *Vimānasthāna* chapter 6, explaining the main treatments for a person who is predominant in *vāta* and becomes *vāta* vitiated. In *Vimānasthāna* 6.16, the list reads as follows: rubbing with oil (*abhyāṅga*), applying a poultice (*upanāhana*), wrapping (*udveṣṭana*), pressing (*unmardana*), pouring (*pariṣeka*), medicated bath (*avagāhana*), rubbing (*saṃvāhana*), administering sneeze-inducing nasal powder (*avapīḍana*), scaring (*vitrāsana*), and causing to forget (*vismāraṇa*). Of particular interest in the latter list is the distinction between two members, rubbing with oil (*abhyāṅga*) and rubbing (*saṃvāhana*).<sup>35</sup>

<sup>32</sup> ... *yat punar bahiḥsparśam āśrityābhyāṅgasvedapradehapariṣekonmardanādyair āmayān pramārṣṭi tad bahiḥ parimārjanaṃ...* (CS Sū 11.55)

<sup>33</sup> “Scaring” and “surprising” appear in this list as they exert a mental and physiological impact the balance of the *doṣas*, here, interrupting an aggravation of *vāta*.

<sup>34</sup> ...*snehasvedavamanavirecanāsthāpanānuvāsanaupaśamananastahkarmadhūmadhūpanāñjanāvapīḍapradhamanābhyāṅgapradehapariṣekānulepanavadhabandhanāvarodhanavitrāsanavismāpanavismāraṇāpatarpaṇaṭsirāvyadhanāni ...* (CS Ni 7.9)

<sup>35</sup> Note that in other contexts in the *Carakasamhitā*, *abhyāṅga* is commonly found in a set of treatments followed by a paste rub (*utsādana*), pouring (*pariṣeka*), and medicated bath (*avagāha*). In the CS Sū, Ni, Śā, and Vi the term *abhyāṅga* is most often followed by the terms *avagaha*, *utsadana*, and *pariṣeka*, or by *avagaha* or *utsadana* followed by *pariṣeka*.

### ***Rubbing (saṃvāhana) and Trained Touch***

We encounter a clarification of the nature of rubbing (*saṃvāhana*) (in the final list above) as a touch therapy not based on substances (*adravyabhūta*) in *Vimānasthāna* 8.87. Rubbing, or *saṃvāhana*, is a tactile treatment that, in contrast to *abhyāṅga*, is understood to have efficacy through touch rather than via a material substance being moved into the body. This passage, found in a lengthy chapter on the requirements for treatment of diseases, describes ten factors to be assessed by physicians in considering treatment, including “instrument” or “*kaṛaṇa*” (*CS Vi* 8.84).<sup>36</sup> In this case, “instrument” is explained further as “remedy/medicament,” “*bheṣaja*,” and as being twofold: remedies “based upon fate/divine power” (*daivavyapāśraya*) and remedies “based upon reasoning” (*yuktivyapāśraya*). In turn, remedies “based upon reasoning” (*yuktivyapāśraya*) are also twofold: those “based on substances” (*dravyabhūta*) and those “not based on substances” (*adravyabhūta*) (*CS Vi* 8.87). The term *saṃvāhana* is found in the list of remedies “based on reasoning” but “not based on substances” (*adravyabhūta*), along with non-tactile practices such as exhibiting fear (*bhayadarśana*), startling (*vismāpana*), and causing to forget (*vismāraṇa*). Cakrapāṇidatta’s commentary helps us understand the distinct mechanisms of treatments “based on substances” (*dravyabhūta*) and treatments “not based on substances” (*adravyabhūta*). “Treatments based on substances” are explained in the *Carakasamhitā* as “those affected by the means” (*upāyābhīpluta*), which Cakrapāṇidatta glosses as “*upāyavyāpta*,” “suffused with the means.” This indicates that the means (*upāya*) is the basis for the action of the treatment rather than the substance (*dravya*) being used. Cakrapāṇidatta continues,

Thus, it is understood the immaterial states, fear, etc., are not visible causes of health, but rather, only to the extent that they make *vāta*, etc., which are situated in the body; through equalizing those [*doṣas*] being produced in the body, health arises. Indeed, the “treatments not based on substances” are not inseparable concomitant causes (*samavayikarāṇa*) in the arisal of tissues/*doṣas* in the body. However, in the arisal of equilibrium of the body, the “treatment based on substances” (*dravyabhūta*) is the only inseparable concomitant cause.<sup>37</sup>

The treatment of *saṃvāhana* provides an example of a tactile treatment that works not through the application of a substance, but through touch itself.

We find both *abhyāṅga* and *saṃvāhana* mentioned in a series of passages related to sleep and male sexuality. Taking a closer look at these passages brings to the forefront the issue of practitioners. In particular, in the case of *saṃvāhana* we encounter the touch of women, including the trained touch of women. A chapter in the *Carakasamhitā Sūtrasthāna* describes the dangers of suppressing specific bodily urges (*vega*) and how to treat someone who has suppressed these urges. As we find throughout much of the treatises, the normative patient is a worldly and affluent male person interested in sexual activity with women and the production of

<sup>36</sup> According to Sharma and Dash’s translation of the *Carakasamhitā*, the ten factors to be examined are *kaṛaṇa* (cause) and *kaṛaṇa* (instrument), *kāryayoni* (source of action), *kāryaphala* (fruits of action), *anubandha* (subsequent manifestation), *deśa* (habitat), *kāla* (time), *pravṛtti* (initiation), and *upāya* (means of action). Sharma and Dash, *Carakasamhitā*, 2:254–255.

<sup>37</sup> *evaṃ manyate—bhayādayo ’bhūtā bhāvā na sāksād ārogyakāraṇāni bhavanti, kiṃ tarhi śarīrasthitān eva vātādīn tathā kurvanti samatvenotpādyamānān yenārogyaṃ bhavati, na hy amūrtāni mṛtānām śarīradhātānam utpattau samavāyikāraṇāni bhavanti; bheṣajaṃ tu dravyabhūtaṃ samaśarīrotpāde samavāyikāraṇāni bhavaty eva... (Carakasamhitā, 275)*

offspring. Among the urges not to be suppressed are those related to semen (*retas*) and sleep (*nidrā*).<sup>38</sup> The first remedy for a man who has suppressed an urge related to semen is rubbing with oil (*abhyaṅga*) (*CS Sū* 7.11), followed by medicated bath (*avagāha*), wine, certain foods, decoction enema, and intercourse. In the same chapter, rubbing (without oil) (*saṃvāhana*) is prescribed for one who has suppressed the urge for sleep (*CS Sū* 7.23), along with sleep itself.

These prescriptions seem to imply that rubbing with oil (*abhyaṅga*) is stimulating and rubbing (*saṃvāhana*) is relaxing. However, this contrast is complicated by later passages that prescribe rubbing with oil for relaxation and rubbing as stimulating. This flexibility suggests that the mode of touch within each category, as well as the context for the treatment and the practitioner are all critical to the qualities imparted by the treatment. For example, rubbing with oil (*abhyaṅga*) is prescribed in a separate section describing remedies for sleeplessness (*CS Sū* 21.53), followed by rubbing with paste (*utsādana*) and bathing (*snāna*). After mentioning the ingestion of specific food and drinks, mental pleasure (*manahsukham*), and scents and sounds pleasing to the mind (*manaso ’nugunā gandhāḥ śabdāḥ*), the passage also lists rubbing (*saṃvāhana*). We also find additional passages suggesting that *saṃvāhana* is stimulating, for example, the aphrodisiac (*vājīkaraṇa*) section of the *Cikitsāsthāna* (*CS Ci* 2.3.24–25)<sup>39</sup> mentions *abhyaṅga* in the same trio of rubbing with oil (*abhyaṅga*), rubbing with paste (*utsādana*), and bathing (*snāna*), as follows:

A man becomes potent by rubbing with oil, scrubbing with paste, bathing, fragrances, garlands, and adornments, the comfort of home, bed, and seat, clothing that is new and adored, agreeable birdsongs, the sounds of women’s ornaments, and rubbing (*saṃvāhana*) by desirable refined women.<sup>40</sup>

In this passage, rubbing with oil by an unspecified self or practitioner brings sexual potency to the man, and so is rubbing (without oil) by desired women. What is notable here is not that contact with women is understood as part of a healthy regimen for a man, but rather, the active role of the woman in performing rubbing (*saṃvāhana*). Here, desired women impart qualities to the act of rubbing rendering the treatment efficacious.

It is not surprising to find a description of contact with certain types of women as healthy for a man in the context of the section on aphrodisiac treatments, where the passage above is found, in which attractive women are considered to be the paramount aphrodisiac (*CS Ci* 2.1.4–7). However, physical, and sexual, contact with women bearing specific qualities, either via their body or comportment, or through the application of substances to their body, is found in other

<sup>38</sup> Although the term *śukra* often refers to male semen, it can also refer to female reproductive fluid (See *Suśrutasaṃhitā Sārīrasthāna* 2.47). *Śukra* is the most refined of the seven tissue (*dhātu*) layers comprising the human body. *Retas* is a term that is used unambiguously to refer to male seed or semen.

<sup>39</sup> The first two sections of the *Cikitsāsthāna*, on rejuvenation therapies (*rasāyana*) and aphrodisiac therapies (*vājīkaraṇa*), are each subdivided into four quarters, thus the notation of 2 (chapter), 3 (subdivision), 24–25 (verse). These sections of the *Cikitsāsthāna* represent separate (two of the eight) branches of Āyurvedic medicine and may have been added during a later redaction (personal correspondence with Dagmar Wujastyk in 2019).

<sup>40</sup> *abhyaṅgotsādanasnānagandhamālyavibhūṣaṇaiḥ |*  
*grhaśayāsanasukhair vāsobhir ahataiḥ priyaiḥ || (CS Ci 2.3.24)*  
*vihaṅgānāṃ rutiar iṣṭaiḥ strīṅāṃ cābharaṇasvanaiḥ |*  
*saṃvāhanair varastrīṅāṃ iṣṭānāṃ ca vṛṣāyate || (CS Ci 2.3.25)*

sections of the treatise as well. For example, in a chapter describing a healthy seasonal regime for a male patient we find women as part the prescription for early winter. In this context the woman and her adornments are part of a sensory vignette in which a male subject cultivates himself in relation to seasonally appropriate sensory stimulus:

During the cold season, the digestion of robust living beings becomes strong, contained by the touch (*sparśa*) of cold winds; in the early winter it is suited to food heavy in quantity or substance.<sup>41</sup> When it does not obtain the proper fuel, then it destroys the fluid produced in the body, hence in the early winter the *vāyu*, being cold, is aggravated.<sup>42</sup> Therefore, during the time of snow, one should use fatty meats (of animals) from marshy lands and living in water, having the tastes of oily, sour, and salty.<sup>43</sup> One should eat the meat of those animals that dwell in burrows and the fried (meat) of donkeys, and a man should frequently drink wine, rum, and mead.<sup>44</sup> In the winter, the lifespan of one who frequents sugar cane juice and cow's milks, liquid animal fat, sesame oil, new rice and hot water, is not diminished.<sup>45</sup> One should resort to rubbing with oil (*abhyāṅga*), rubbing with paste (*utsādana*), [applying] sesame oil on the head, the heat of a steam room (*jentaka*), and in like manner, a warm earthen house and a warm inner room.<sup>46</sup> In the cold seasons, a covered bed, chair, or vehicle, strewn with thick cloth, animal skin, woven silk, woolen cloth, or variegated cloth, is to be used.<sup>47</sup>

A man dressed in warm and heavy clothing, limbs continually anointed with thick aloe, on a bed—having embraced an amorous woman with large and well-developed breasts, limbs also anointed with aloe—intoxicated with passion, should sleep; and upon the arrival of early winter, he should perform sexual intercourse according to his desire.<sup>48</sup> At the onset of winter, he should avoid food and drinks that are full of air and light, [and] limited quantities of food and stirred drinks.<sup>49</sup>

<sup>41</sup> *śīte śītānilasparśasamaṇruddho balināṃ balī |*  
*paktā bhavati hemante mātrādravyaguruḥsamah || (CS Sū 6.9)*

<sup>42</sup> *sa yadā nendhanaṃ yuktaṃ labhate dehajaṃ tadā |*  
*rasaṃ hinastyato vāyuh śītaḥ śīte prakupyati || (CS Sū 6.10)*

<sup>43</sup> *tasmāt tuṣārasamaye snigdhamlalavaṇān rasān |*  
*audakānūpamāmsānāṃ medyānām upayojayet || (CS Sū 6.11)*

<sup>44</sup> *bileśayānāṃ māmsāni prasahānāṃ bhṛtāni ca |*  
*bhakṣayen madirāṃ śīdhuṃ madhu cānupiben naraḥ || (CS Sū 6.12)*

<sup>45</sup> *gorasān iḥṣuvikṛtīr vasāṃ tailaṃ navaudanam |*  
*hemante 'bhyasyatas toyam uṣṇaṃ cāyur na hīyate || (CS Sū 6.13)*

<sup>46</sup> *abhyāṅgotsādanaṃ mūrdhni tailaṃ jentākam ātapam |*  
*bhajeḍ bhūmiḡrhaṃ coṣṇam uṣṇaṃ garbhagrhaṃ tathā || (CS Sū 6.14)*

<sup>47</sup> *śīteṣu samvṛtaṃ sevyam yānaṃ śayanam āsanam |*  
*prāvārājīnakaṣeyapraveṇīkuthakāstrtam || (CS Sū 6.15)*

<sup>48</sup> *gurūṣṇavāsā digdhāṅgo guruṇā 'guruṇā sadā |*  
*śayane pramadāṃ pīnāṃ viśālopacitastanīm ||*

*ālīṅgyāgurudigdhāṅgīm supyāt samadamanmathaḥ |*  
*prakāmaṃ ca niṣeveta maithunaṃ śīśīrāgame | |(CS Sū 6.16–17)*

<sup>49</sup> *varjayed annapānāni vātalāni laghūni ca |*  
*pravātaṃ pramitāhāram udamanthaṃ himāgame || (CS Sū 6.18)*

In this passage, women, like food, drink, and oleation, are part of a warming and unctuous sensory environment with which the male subject engages for seasonal health.

Reminiscent of this passage, women having specific *doṣa*-alleviating properties are listed in a section of the *Carakasamhitā Cikitsāsthāna* describing treatments for excess intoxication. However, in this section, the text expands upon the possibilities for female touch by mentioning the “trained” or “skilled” (*śikṣita*) touch of women. Excess intoxication caused by each of the *doṣas* entails a different treatment regime, with each *doṣa*-specific regime including an option for intimate contact with a particular idealized type of woman. For example, if excess intoxication is arisen from *pitta* then a set of cooling practices is recommended, including the touch and ingestion of cooling objects, food, and drinks, moving through cooling environments, and the contact (*samsparsā*) of women anointed with sandalwood paste (*CS Ci* 24.155). At the end of the section prescribing treatments for *kapha*-arisen excess intoxication we find the following passage:

Excess intoxication that is *kapha*-predominant is cured quickly by means of warm food and drink, hot bath, exercise and fasting, staying awake appropriately, by bath and rubbing with rough substances at the appropriate time, by using substances causing energy and complexion, and by scrubbing, by wearing heavy clothes and also aloe, by enjoying the bodies of women having warm and pleasing saffron-covered limbs, and by means of the rubbing (*samvāhana*) of women having pleasant and trained hands (*sukhaśikṣitahasta*).<sup>50</sup>

At first glance, the women in this passage also seem to be merely part of a sensory vignette, a backdrop for a male subject. All of the practices and substances prescribed in the passage are intended to mitigate the properties of *kapha*: unctuousness, coolness, etc. The list includes several touch practices and their mention together in the passage suggests that they are distinct from one another. First, we find bath and rubbing with rough substances (*rūkṣa snānenodvartana*), such as grainy powder. Then vigorous rubbing or scrubbing (*pragharṣāṇā*). However, when we encounter the women who have warm limbs covered in saffron, attached to the end of these limbs are pleasing (*sukha*) and trained (*śikṣita*) hands. The participle *śikṣita* comes from the verbal root learn, study, practice, so the past passive participle means learned, studied, practiced, and also, according to Monier-Williams, “taught, instructed or trained or exercised in, (*accusative locative case, or compound*).”<sup>51</sup> The use of this term indicates *samvāhana* is a skilled practice entailing training. In the context of this passage, we can understand the term to explicitly indicate the trained touch of women. Unlike the women in the other sensory vignette, these women have a backstory. They have training and skill.

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<sup>50</sup> *rūkṣoṣṇenānnapānena snānenāśisireṇa ca |*  
*vyāyāmalāṅghanābhyāṃ ca yuktyā jāgaraṇena ca || (CS Ci 24.185)*  
*kālayuktena rūkṣeṇa snānenodvartanena ca |*  
*prānavarṇakarāṇām ca pragharṣāṇām ca sevayā || (CS Ci 24.186)*  
*sevayā vasanānām ca gurūṇām aguror api |*  
*saṃkocoṣṇasukhaṅgīnām aṅganānām ca sevayā || (CS Ci 24.187)*  
*sukhaśikṣitahastānām strīṇām samvāhanena ca |*  
*madātyayaḥ kaphaprāyaḥ śīghram evopāsāmyati || (CS Ci 24.188)*

<sup>51</sup> Monier-Williams, *A Sanskrit-English Dictionary*, 1070.



Dagmar Wujastyk identifies several different categories of attendants and “other helpers”<sup>52</sup> involved in Āyurvedic treatments, including “kitchen staff,” “friends,” “midwives and experienced women,” “wet-nurses,” and “those who know plants.”<sup>53</sup> It is clear based on her discussion of these roles that touch in Āyurvedic practice far exceeds the role of the physician. If we understand that the treatises were primarily oriented towards practices that the physician carried out or directly supervised, then this may explain the paucity of direct descriptions of touch therapies. In a passage explaining how a physician should prepare if he wishes to treat the king or a member of the wealthy aristocracy, we find a description of the type of trained attendants he must have on hand, along with a perfectly constructed and stocked treatment room. Wujastyk explains,

After that, one should select the staff of soup and rice cooks, bath attendants, masseurs [*saṃvāhaka*], people to help patients with getting up and sitting down, and herb grinders. They should be good-natured, clean, well-behaved, loyal, practical, and pious. They should be skilled in nursing and accomplished in all treatments. The attendants should be able to sing, play instruments, and perform recitation, as well as being skilled in verses, songs, stories, legends, and ancient lore.<sup>54</sup>

These masseurs and bath attendants were clearly trained, given the manifold skills they are supposed to exhibit. But the juxtaposition of occupations ranging from cook and masseur, to a person who helps a patient get up and down, leaves ambiguity regarding the level of technical skill implied by inclusion in this list. Being able to sing and play instruments are the first two of the traditional sixty-four *kalās* or “fine arts,” all of which are part of a courtesan’s education, suggesting that part of the role of trained attendants, at least those fit for a king, is entertainment and distraction in the course of treatment.<sup>55</sup> If we consider the possibility that the forms of touch that are not described in the treatises represent training outside of the scope of the physician, the attendants likely played a primary role in the delivery of tactile therapies such as *abhyāṅga* and *saṃvāhana* to patients.

Further suggestion regarding the status of *saṃvāhana* as a trained touch therapy is found in the figure of the *saṃvāhika*, translated as “shampooer” or “masseur” in Śūdraka’s *Mṛcchakaṭīka*, *The Little Clay Cart*. In his Clay Library translation of the play, Diwakar Acharya notes that there is evidence for dating the Prakrit passages in the play to the third or fourth century CE, and for a substantial revision to the play after the fifth century CE.<sup>56</sup> The provenance of the play is debated, and it was likely completed at a later date than the earliest compilation of the *Carakasamhitā*. However, this example is suggestive when read alongside our passages from the medical treatise mentioning women with trained hands performing the *saṃvāhana* treatment for *kapha*-arisen excess intoxication. Act Two of *The Little Clay Cart*, translated by Acharya as “The Gambling Masseur,” features a *saṃvāhika*, or “Masseur,” who turned to gambling when his master fell into poverty.<sup>57</sup> In the following interaction, the *saṃvāhika* has his first encounter with the female protagonist, Vasantasenā, a beloved courtesan. The *saṃvāhika*, after a dispute

<sup>52</sup> Wujastyk, *Well-Mannered Medicine*, 59.

<sup>53</sup> Wujastyk, 63–67.

<sup>54</sup> Wujastyk, 59, 63–67, 61.

<sup>55</sup> See Vatsyayana, *Kamasutra*, 14–15.

<sup>56</sup> Śūdraka, *The Little Clay Cart*, xxiv–xxv.

<sup>57</sup> Here, I am citing Diwakar Acharya’s translation of the play (Śūdraka, 2009).

with fellow gamblers whom he has failed to pay, slips through an open door and takes refuge in Vasantasenā's home. In the scene, Vasantasenā and her servant Madanikā question the *saṃvāhika* about his identity. Here, I cite Acharya's translation of the Prakrit dialogue, in which he translates *saṃvāhika* as Masseur:

Masseur: Please listen my lady! Pátaliputra is my birthplace. I'm son of a village chief.  
And I'm a masseur.

Vásantasena: A very delicate art you have learned, sir!

Masseur: My lady, I learned it as an art, but now it has become my means of livelihood.

Mádanika: You respond in a very sad tone, sir! What's that about?

Masseur: Well after that, my lady, at home I heard about this region from travelers, and came here driven by curiosity to see a new land. And once I entered Újjayini, I have served one master alone.<sup>58</sup>

The conversation continues as the Masseur describes the great virtues of his master and the trio realizes that the master is, in fact, Cārudatta, the object of Vasantasenā's affections. Upon recognizing this connection, Vasantasenā rescues the Masseur by dispatching her maid, Madanikā, with a bracelet to repay one of the gamblers chasing the Masseur. Indebted to Vasantasenā, the Masseur offers his services to her:

Masseur: If that is the case, my lady, let me then teach my art to your servants.

Vásantasena: My good man, you should serve the same master for whose sake you learned this art and whom you have served before.<sup>59</sup>

Masseur (*to himself*): I have been skillfully rebuffed by the lady. How can I repay her? (aloud) My lady, I'll become a Buddhist monk because of this insult from the gambler. So you must remember that a masseur who was a gambler has turned into a Buddhist monk.<sup>60</sup>

The masseur offers to teach his special "art," translated from the Prakrit (and Sanskrit) *kalā*, to the courtesan's servants. Responding to her rejection of his offer, he renounces both the art of rubbing and the vice of gambling, both lumped together in his act of renunciation.

This dialogue reveals several things about the practice of *saṃvāhana* in the imagined urban world of the city of Ujjayini in the drama. First, the practice of *saṃvāhana* is regarded as an art that one is to be trained in. This art is also one that can serve as a livelihood and the core of one's social identity, as shown by the naming and identification of the character with his trade. The Masseur's offer to share his trade is not one of offering to serve Vasantasenā as a masseur, that is, through direct practice of his art, but instead, through training of Vasantasenā's servants.

<sup>58</sup> Śūdraka, *The Little Clay Cart*, 113.

<sup>59</sup> Śūdraka, 119.

<sup>60</sup> Śūdraka, 121.

This demonstrates that the thing of greatest value he possesses is not the practice but teaching of the practice. In the context of the play, rubbing was a profession taught by a teacher, and the details of rubbing are outside of the scope of concern and expertise of the early Āyurvedic treatises.

There are several occurrences of the terms *saṃvāhana* (rubbing) and *saṃvāhikā/ā* (practitioner of rubbing) in the famous third-century erotic treatise, the *Kāmasūtra*.<sup>61</sup> As a manual (*śāstra*) focused on pleasure (*kāma*), the *Kāmasūtra* outlines practices of self-cultivation and pleasure for urban, cosmopolitan, elite men and describes training and comportment for courtesans. Just as the ideal attendant in the *Carakasamhitā* is to practice the “fine arts,” “*kalās*,” so should the courtesan in the *Kāmasūtra*. Among these fine arts is the trio of rubbing with paste (*utsādana*), rubbing (*saṃvāhana*), and hair brushing (*keśamardana*).<sup>62</sup> In the *Kāmasūtra*, the term rubbing, “*saṃvāhana*,” often appears in an erotic context. Vātsyāyana distinguishes rubbing from embracing (*upagūhana*), explaining that although they both entail tactility (*saṃsparśatva*), they are completely different in terms of agency and mutuality. Here, I cite Doniger’s translation, which renders *saṃvāhana* as massaging:

Some people think that massaging is also a kind of close embrace, because it involves touching. But Vatsyayana says: No. For a massage takes place at a particular time set aside, has a different use, and is not enjoyed by both partners in the same way.<sup>63</sup>

This form of touching involves skill, a practitioner, and a recipient. This is emphasized further in a passage in “Other Men’s Wives” on the topic of “Testing a Woman’s Feelings.” As Doniger translates,

Even if he has not made advances to her, she sends signals, and she reveals herself to him when they are alone. She trembles and stammers when she speaks. Her fingers and toes perspire, and her face perspires. She offers to rub the man’s head and massage his thighs. Simultaneously the patient and the masseuse, with one hand she massages him and with the other arm she embraces him and indicates that she might touch him.<sup>64</sup>

The Sanskrit for the last line of the passage renders the woman at once the patient (*āturā*) and the masseur (*saṃvāhikā*).<sup>65</sup> The woman is nervous, stammering and sweating, and in this capacity, she is a patient; at the same time, she is trying to assuage her sickness through rubbing, i.e., seducing or arousing a man who is not her husband. It is in the latter capacity that she is the rubber, or masseur.

As Daud Ali notes in his study of sexual alterity in early medieval India, the figure of the male *saṃvāhikā*, “masseur” or “shampooer,” is associated in the *Kāmasūtra* with the third-sex figure of the *puruṣarūpiṇī*, a female-gendered noun meaning “one taking the form of a man.” This figure is the imagined practitioner in a remarkably detailed and lengthy exposition on oral sex found in book 2 chapter 9 of the treatise. The passage opens by describing the two types of

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<sup>61</sup> Vatsyayana, *Kamasutra*, xi.

<sup>62</sup> *KāS* 1.3.15.

<sup>63</sup> *KāS* 2.2.27–28; Vatsyayana, *Kamasutra*, 41.

<sup>64</sup> Vatsyayana, *Kamasutra*, 114.

<sup>65</sup> *āturāsaṃvāhikā caikena hastena saṃvāhayanti dvitīyena bāhunā sparśam āvedayati śleṣayati ca vismita-bhāvā* (*Kā S* 5.3.17)

“third-sex” (*tr̥t̥yāprakṛti*) figures, female presenting and male presenting. The former lives as a courtesan. Ali explains the figure of the “male masseuse”:

The masculine-appearing third-nature, by contrast, had a desire for men that was “concealed” (*pracchanna*), and earned a living as a shampooer or masseuse (*saṁvāhaka*). Vātsyāyana goes on to describe the different techniques of oral sex from the point of view not of the *str̥r̥ūpiṇī*, but of the masculine masseuse, who, though masculine in appearance, was in fact “third-nature.” While massaging a man’s thighs, the masseuse was to gradually rub areas closer and closer to his penis to try to induce an erection, and if successful was to chide him about it, gauging his response. If he said nothing, the masseuse would then initiate oral sex; but if urged on, would comply only after feigning protest. Vātsyāyana then details some eight specific techniques of oral sex performed by the *tr̥t̥yāprakṛti*.<sup>66</sup>

In Āyurvedic treatises the term *saṁvāhana* can appear in both sexual and non-sexual contexts. As Ali notes of *śāstra* in general,

Śāstric literary and visual sources highlight a variety of ethical dispositions toward sex that were often fractured, even within single genres and treatises. The realm of “prescription” often reveals contradictory articulations of practice, and these diverse entanglements are fully evident in literature and art, which bear the additional weight of social and ideological refraction. These sources should instead be understood as part of a single analytical field.<sup>67</sup>

Reading these passages in the *Kāmasūtra* as part of the same “analytical field” with the Āyurvedic *śāstra* and the artistic form of the *Mṛcchakaṭika* suggests an explicitly sexual form of skill embodied by the trained hands of the women performing *saṁvāhana* in the *Carakasamhitā*. Although it is beyond the scope of this current study, the *Carakasamhitā* and other early Āyurvedic treatises evidence relatively positive but also ambivalent attitudes towards sexuality.<sup>68</sup> On the one hand, as we have seen, sexual interactions with idealized women, presumably not one’s own wife, are prescribed as part of a healthy regime for a normative man. The urge to ejaculate is one that should not be suppressed. On the other hand, sexual overindulgence or improper sex that defies normative gender roles and sexualities (as I have written about elsewhere) can bear negative consequences for one’s self and one’s offspring.<sup>69</sup>

## Part Two: The Surgical Hand

In the second section of this chapter, I take up the tactile provocation of Dr. Arun’s “hydro-dissection” experiment that opened Chapter Two as commentary to guide my selection and

<sup>66</sup> Ali, “Censured Sexual Acts,” 55.

<sup>67</sup> Ali, 49.

<sup>68</sup> Lawrence Cohen’s ethnographic study of “semen loss anxiety” in contemporary North India examines the ways that an imagined “Āyurced” is engaged with “reductively and circularly,” both as an explanation for the varied forms of this anxiety, and as a framing for early Āyurvedic medicine (through emphasis on semen (*sūkra*) as the most refined tissue layer formed through the metabolism of food). Cohen, “The History of Semen: Notes on a Culture-Bound Syndrome.”

<sup>69</sup> Brooks, “Karma as an ‘Apparatus,’” Part 2, 2011.

reading of surgical passages from the *Suśrutasamhitā*. Sheldon Pollock has suggested that in Indian intellectual history, “*sāstra* (theory)” always precedes “*prayoga* (practice).”<sup>70</sup> However, he also cites *Carakasamhitā* and *Suśrutasamhitā* as pushing the boundaries of these distinctions. In particular, Pollock notes the prioritization of “authoritative instruction” as a means of valid knowledge in the *Carakasamhitā*, which we examined in detail in Chapter Two of this dissertation.<sup>71</sup> But, if we take representations of the multi-layered tactile expertise in the *Suśrutasamhitā* as our point of departure, then we encounter a more complicated relationship between theory and practice. The ways in which practice and theory are “hybrid and interlinked” in the treatise calls to mind Roberts and Schaffer’s analysis of the anachronism of distinct categories of “science” and “technology” in their introduction to an edited volume on the “mindful hand” in late Renaissance to early Industrial Europe.<sup>72</sup> The articles in their volume illustrate the “intimate link of contemplative and manipulative knowledge,” recalling the passage on hydro-dissection from the *Suśrutasamhitā* that opened Chapter Two. In the surgical treatise, the passage appears in a prescriptive note at the end of a chapter enumerating and describing human anatomy. I restate it here: “Indeed, that which is seen through direct perception and that which is seen in the teachings, they both, in combination, augment knowledge to a greater degree” (*SS Śā* 5.4).<sup>73</sup> This passage suggests that the “mindful” surgical hands we encounter in the *Suśrutasamhitā* must perform surgical touch through a combination of both textual knowledge and practical expertise. These surgical hands can sense tactile attributes in diagnosis and treatment, identify and manipulate flesh through direct and instrument-mediated touch, and execute informed judgment.

Reading first-millennium Āyurvedic treatises with attention to the tactile expertise and sensory perception of a surgeon permits a fresh consideration of representations of surgical expertise and touch in early South Asia. In chapter two, we examined representations of surgeons and surgical expertise in general medical treatises, and by comparing passages on diagnosis in the *Carakasamhitā* and *Suśrutasamhitā* established that the treatises represent a greater sensory intimacy on the part of surgeons in the process of patient assessment. Here we will examine surgical tactility and expertise with a focus on representation of surgeons in the *Suśrutasamhitā*. As noted earlier, scholarship on early first millennium Āyurvedic medicine has tended to generalize upon the category of physician or else conceive of the difference between the earliest preserved treatises—the general treatise, *Carakasamhitā*, and the treatise with a focus on surgery, *Suśrutasamhitā*—as hinging on minor philosophical distinctions.<sup>74</sup> This chapter builds upon the argument presented in Chapter Two, emphasizing the difference in representations of the medical embodiment of general practitioners and surgeons across the two treatises, in terms of the tactile expertise and sensory intimacies of treatment. First, we will closely read a passage on training for surgical physicians noting the importance of cultivated tactile skill and the

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<sup>70</sup> Pollock, “Theory of Practice,” 501.

<sup>71</sup> Pollock, 509.

<sup>72</sup> Roberts et al., “The Mindful Hand,” xix.

<sup>73</sup> Roberts et al., xxvi.

<sup>74</sup> Notable exceptions include Dagmar Wujastyk, who attends closely to representations of different medical actors, and Martha Selby, whose close readings attend to embodied and gendered knowledges in the treatises. See Wujastyk, *Well-Mannered Medicine*; Selby, “Narratives of Conception, Gestation, and Labour in Sanskrit Ayurvedic Texts”; Selby, “Between Medicine and Religion: Discursive Shifts in Early āyurvedic Narratives of Conception and Gestation”; and Selby, “On Anatomical Enumeration and Difference in Early Sanskrit Medical Literature.”

sensing of tactile attributes (*guṇas*). Then, I will briefly compare the treatments for piles (*arśas*) and urinary stones (*aśmarī*) as described in the *Carakasamhitā* as a prelude to a close reading of the surgical treatments for these conditions in the *Suśrutasamhitā*.

### ***Surgical Training/Theory and Praxis***

Surgical physicians gain tactile and sensory knowledges about the body not only through the sixfold method of diagnosis described in Chapter Two, but also during practical training and during surgical treatment. In these contexts, touch, as well as touch intertwined with vision, constitute the central sensory knowledges informed by, and generated through, the cyclic processes of Āyurvedic diagnosis and treatment. As noted earlier, the qualities of a good surgeon emphasize both physical aptitudes and coordination, “particularly light-handedness, swiftness, and strength and their psychological counterparts, readiness of mind and resolve.”<sup>75</sup> These qualities are cultivated through not only study of the treatise but also, importantly, through practice. In the *Suśrutasamhitā*, a description of *yogya*, “practice” or “preparation,” is found in the *Sūtrasthāna* chapter 9, immediately following two chapters about surgical instruments. The ideal surgical practitioner is quick of hand and they are also well-equipped. The *Suśrutasamhitā* devotes a considerable portion of the *Sūtrasthāna* describing the instruments, including the hand (*yantras*, *Sū* 7), sharp instruments (*śastras*, *Sū* 8) and accessory or substitute sharp instruments (*upaśastras*, *Sū* 8), of the surgeon.<sup>76</sup> This emphasis on surgical tools reveals the centrality of cutting practices to the surgical physician. The *Carakasamhitā*, rather, emphasizes that the physician must have a space constructed for treatment that is well-stocked and staffed in order to administer treatments, with an emphasis on dietetics, medicaments, oleation and fomentation regimes (*CS Sū* 15).

The *Suśrutasamhitā* classifies eight types of surgery, “*śastrakarman*,” literally “sharp instrument-procedure”: cutting (*cheda*), removing (*bheda*), scraping (*lekhyā*), piercing (*vedhya*), probing (*eṣya*), extracting (*āhārya*), draining (*visrāvya*), and suturing (*sīvyā*) (*SS Sū* 5.5.). The brief chapter on training explains that even if the student has studied the entire treatise as required, they must also be instructed by a teacher and practice these surgical techniques.

One should impel the student, who has learned the meaning of the entire treatise, to do the preparation. One should instruct the path of practice with regards to oleation, etc. and cutting, etc. Even one who is deeply versed in the treatise, who has not prepared, is unfit for practice.<sup>77</sup>

The description of surgical pedagogy that follows reveals that surgical techniques hinge on the capacity to sense tactile attributes such as texture, hardness, softness, density, and resistance.

There, one should demonstrate the different types of cutting (*cheda*) on the fruits and flowers of bottle gourd, *kāḷindaka*, *trapusa*, *ervāruka*, *karkāruka*, etc., and one should

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<sup>75</sup> Wujastyk, *Well-Mannered Medicine*, 32.

<sup>76</sup> For a discussion of sharp instruments and accessory sharp instruments in surgical practice, see Chapter Six of this dissertation.

<sup>77</sup> *adhigatasarvaśāstrārtham api śiṣyaṃ yogyāṃ kārayet | snehādiṣu chedyādiṣu ca karmaṣu upadiśet | subahuśruto 'py akṛtayogyaḥ karmasv ayogyo bhavati ||* (*SS Sū* 9.3)

instruct cutting off and cutting into pieces; the practice of splitting on a leather water bag, bladder, a sac, etc., filled with mud mixed with water; of scraping on hairy stretched hide; and puncturing on the veins of a dead animal or a lotus; of probing on termite-eaten wood, the tube of a stalk of bamboo, the mouth of a dried gourd; of extraction on the pulp of the fruit of jackfruit, *bimbī*, *bilva*, (and) the teeth of dead animals; of draining on a gum-tree board smeared with the beeswax; of suturing on two soft hides and two fine and thick cloths; the practice of bandaging on the limbs of the body of a clay figure; the application of heated metal and caustic alkali on soft pieces of flesh, and the practice of binding for the joining of ears on a soft hide, the flesh of an animal, or a lotus; and the practice of inserting the enema nozzle, making a hole in the bladder/enema pouch, and pressing the bladder into the channel on the side of a jar filled with water or the mouth of a gourd.<sup>78</sup>

A student learns how to puncture, suture, and extract with the varied textures of floral and faunal material. This skill requires sensing, assessing, and skillfully engaging with the correct instrument and the thickness, firmness, density, and location of the vessel to be punctured, as well as sensations felt both manually and through instruments. For practice with suturing, the texture and quality of the hide or cloth to be used is specified. To practice extraction, one works with the flesh of jackfruit, which is segmented and difficult to pry apart, or on the teeth of a dead animal to simulate the resistance of dental extraction, and so on. When vision is directly implicated, for example in the process of bandaging, it is intertwined with tactility. This practical training emphasizes learned tactile skill and expertise based on sensing attributes in simulated tissues. These passages suggest that “mindful” surgical hands we encounter in the *Suśrutasaṃhitā* can sense tactile attributes in diagnosis and treatment, nimbly identify and manipulate flesh through direct and instrument-mediated touch, and to execute informed judgment.

### ***Surgical Tactility in Treatment Case Study: Piles***

The treatments for piles (*arśas*) and urinary stones (*aśmarī*) in the *Carakasamhitā* contrast with the *Suśrutasaṃhitā*'s descriptions of treatment for these disorders. In each of these cases the *Carakasamhitā Cikitsāsthāna* provides instructions that focus on recipes, preparations, and instructions for non-surgical treatments. It also mentions the possibility for surgical intervention by an experienced surgeon. This differs from the *Suśrutasaṃhitā*'s detailed description of surgical treatments for the same disorders. A close reading of the contrasting passages, and of the *Suśrutasaṃhitā*'s surgical intervention these conditions, demonstrates the interplay of sensory

<sup>78</sup> *tatra puṣpaphalālābūkāḷindakatrāpusai(so)rvārukarkārukāprabhṛtiṣu chedyaviśeṣān darśayet, utkartanāpakartanāni copadiśet; dr̥tibastiprasevakaprabhṛtiṣūdakapaṅkapūrṇeṣu bhedyayogyām; saromṇi carmaṇy ātate lekhyasya; mṛtapaśusirāsūtpalanāleṣu ca vedhyasya; ghuṇopahatakāśṭhāvenūnalānālīśuṣkālābūmukheṣv eṣyasya; panasabimbībīlvaphalamajjamṛtapaśudanteṣv āhāryasya; madhūcchiṣṭopalipte śālmālīphalake visrāvyasya; sūkṣmaghanavastrāntayor mṛducarmāntayoś ca sīvyasya; pustamayapurūśāṅgapratyaṅgaviśeṣeṣu bandhanayogyām; mṛduṣu māṃsakhaṇḍeṣv agnikṣārayogyām, mṛducarmamāṃsapeśīṣūtpalanāleṣu ca karṇasandhibandhayogyām; udakapūrṇaghaṭapārśvasrotasyalābūmukhādiṣu ca netrapraṇidhānabastivraṇabastipīdanayogyāmiti || (SS Sū 9.4)*

knowledge, technical skill, experience, and judgement constituting surgical tactility in the treatise.

In *Carakasamhitā Cikitsāsthāna* chapter fourteen, after offering instructions on how to identify the *doṣa*-based etiologies of different type of piles, five verses mention surgical treatment. Over two hundred verses follow this, describing treatments such as sweating, application of decoctions, ointments, fumigation, enemas, oleation, and ingestible preparations (*CS Ci* 14.38–255). Bloodletting is offered as a treatment if the application of other substances to the piles does not alleviate the symptoms and spoiled blood is determined to be the cause. For instance, this is the case if piles is caused by *pitta*. This attests to the fact that minor and relatively safe surgical interventions, while not prioritized, are in the domain of general practitioners as well (*CS Ci* 14.60–61). The general practitioner’s engagement with tactility is only elicited in the text in the etiological descriptions found at the beginning of the chapter describing the attributes of each type of piles in terms of *doṣa*-predominance. For example, in addition to describing the coloration, discharge, and other symptoms of each type of piles, *kapha*-predominant piles are described as thick, smooth, tolerant to touch (*sparsasaha*), oily, pale, slimy, swollen, heavy, fixed, etc. (*CS Ci* 14.17). The use of touch is indicated here as one of several etiological assessments, and the form of tactile knowledge implicated is one of simple assessment of attributes. The treatise briefly describes and discourages surgical intervention for the condition, as follows:

In reference to that, some say the excision of piles with a sharp instrument is appropriate, and also some say burning by means of caustic alkali, so also, some say burning by heated metal.<sup>79</sup> It is thus, by a wise physician, learned in the doctrine, whose actions are attested, the threefold action should be performed. In that case, error (*bhramśa*) is very dreadful (*sudāruṇa*).<sup>80</sup>

A warning of the possible complications of such procedures comes after, followed by a statement on the treatments to be described in the remainder of the chapter: “But we will explain that action for the cessation of piles with its root causes, which has appropriate means, little error (*alpabhramśa*), and is not dreadful (*adāruṇa*).”<sup>81</sup> The general methods for curing piles, which have “little error” and are “not dreadful” are presented as the precise inverse to surgical action. This leaves little question as to the opinion of the author(s) regarding the appropriate and safe (non-surgical) path for a general physician. This also highlights a fundamental difference in the treatises’ orientation, as the chapter on piles in the *Suśrutasamhitā* (*Ci* 6) emphasizes surgical treatments by describing them first and in extensive detail.

The *Suśrutasamhitā* begins the chapter on the treatment of piles by explaining that there are four methods for addressing the condition, each suited to a different type of piles: medicine (*bheṣaja*), caustic alkali (*kṣāra*), heated metal (*agni*), and sharp instrument (*śastra*) (*SS Ci* 6.3).

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<sup>79</sup> *tatrāhur eke śastreṇa kartanaṃ hitam arśasām |*  
*dāham kṣāreṇa cāpyeke, dāham eke tathā ’gninā ||* (*CS Ci* 14.33)

In this context, *agni* indicates *agnikarman* (“action of fire”) which refers to the use of heated metal in treatment.

<sup>80</sup> *asty etad tantreṇa dhīmatā drṣṭakarmanā |*  
*kriyate trividham karma bhramśas tatra sudāruṇaḥ ||* (*CS Ci* 14.34)

<sup>81</sup> *yat tu karma sukhopāyam alpabhramśam adāruṇam |*  
*tad arśasām pravakṣyāma samūlānām nivṛttaye ||* (*CS Ci* 14.37)



Medicine is suitable for piles that are recently arisen, have minimal involvement of the *doṣas*, few symptoms or supervenient diseases, and are invisible. Although medicine is listed first, the treatise begins by describing in great detail the surgical treatment of piles, those using caustic alkali, heated metal, and sharp instrument. Several things are notable about these passages: the tactile intimacy between patient and physician, the importance of skillful use of these surgical tools, and the importance of strong attendants to hold and restrain the patient. The treatise first describes the procedure for the use of caustic alkali to remove piles. The treatise specifies that this procedure is to be performed on a “strong patient” (*balavantam āturam*). First, the strong patient undergoes the standard preparatory procedures of oleation and sudation and ingests *vāta* pacifying warm and liquid nourishment. Then, they are positioned with buttocks facing upwards, bound and restrained by attendants. The treatise continues:

Hence, for [the patient] whose anus is smeared with ghee, having placed the instrument (*yantra*) facing straight forward very gently into the anus while the person is bearing down, entering, and observing the piles, pressing with the probe (*śalākā*), wiping with cotton, cloth, or something else similar, he should apply the caustic alkali. And having applied (the alkali), covering by hand the entrance of the instrument he should wait the measure of 100 *vāk* [syllables]. Then wiping (the alkali off), having observed the strength of caustic alkali and the strength of the disease, he should smear again. Now, having observed the piles appearing like the ripe *jambu* fruit, sunken and slightly curved, one should wash off the caustic alkali with fermented liquid (*dhānyāmla*), sour milk, whey, or sour fruit juice. Then, having applied ghee mixed with licorice (*yaṣṭīmadhu*), the instrument is to be extracted, one should sprinkle with cold water the patient who has gotten up and bathed in hot water, some say with water that is not cold. Then, having entered a dwelling without wind he should be instructed in regimen. If there is a remainder (of piles) one should burn again.<sup>82</sup>

The chapter proceeds to describe the different combinations of surgical treatment for different types of piles, for example, for piles caused by *vāta* and *kapha*, the piles are to be burnt with heated metal (cauterization) and through alkali. However, if the piles are caused by *pitta* or *rakta*, then the condition is only to be burnt with alkali. If the piles are huge and the patient is strong then the piles should be cut out with a sharp instrument (*saśtra*) and then cauterized. The level of contact between the surgeon and patient is further borne out through a brief description of how to use tools to apply caustic alkali. “And reading (the piles) one should apply caustic alkali with one of a number of tools, ladle, brush, or probe. But when there is a fallen (prolapsed) anus one should perform the actions of alkali, etc., without an instrument.”<sup>83</sup>

<sup>82</sup> *tato 'smai ghr̥tābhyaktagudāya ghr̥tābhyaktaṃ yantram ṛjvanumukhaṃ pāyau śanaiḥ śanaiḥ pravāhamāṇasya praṇidhāya, praviṣṭe cārśo vīkṣya, śalākayotpīḍya, picuvastrayor anyatareṇa pramṛjya, kṣāraṃ pātayet; pātayitvā ca pāṇinā yantradvāraṃ pidhāya vākcchatamātram upekṣeta, tataḥ pramṛjya kṣārabalaṃ vyādhibalaṃ cāvekṣya punarālepayet, athārśaḥ pakvajāmbavapratīkāśam avasannam ṭṣannatam abhisamīkṣyopāvartayet, kṣāraṃ prakṣālayed dhānyāmlena dadhimastuśuktaphalāmlair vā, tato yaṣṭīmadhukamīśreṇa sarpiṣā nirvāpya yantram apanīyothāpy āturam uṣṇodakopaviṣṭaṃ śītābhir adbhiḥ pariṣiñcet, aśītābhirityeke, tato nirvātam āgāraṃ praveśyācārikam ādiṣet; sāvaśeṣaṃ punardahet; evaṃ saptarātrāt saptarātrādekaikam upakrameta; tatra bahuṣu pūrvaṃ dakṣiṇaṃ sādhayet, dakṣiṇādvāmaṃ, vāmāt pṛṣṭhajaṃ, tato 'grajamiti || (SS Ci 6.4)*

<sup>83</sup> *āsādyā ca darvikūrcakaśalākānāmanyatamena kṣāraṃ pātayet|*

### *Surgical Tactility in Treatment Case Study: Urinary Stones*

The *Carakasamhitā* presents the excision of a urinary stone (*aśmarī*) as a last resort to be undertaken only by an expert in surgery (*śalyavid*). In a chapter on injuries to the three vital areas (*marmīya*), one of which is the bladder (*basti*), the *Carakasamhitā* presents the treatment of urinary stones. The preferred treatments for *aśmarī* in the general treatise involve the ingestion of medications to dissolve the stones so that they will pass. At the end of the passage, the following instructions describe the treatments of last resort: “Now, having imbibed an intoxicating drink, one should go forth by means of a chariot or horse running quickly, by these [means] the gravel should drop out. But if the stone is not relieved, an expert in surgery (*śalyavid*) should remove it.”<sup>84</sup> The procedure is not explained further, but Cakrapāṇidatta explains that the person to perform the procedure, the *śalyavid*, is an “expert in the teachings of surgery” (*śalyaśāstravettā*) implicating the existence of surgical specialists in his reading.<sup>85</sup> These passages in the *Carakasamhitā* provide a marked contrast to the deeply tactile treatment procedure prescribed for the same condition in the *Suśrutasamhitā*.

As we have seen, surgical tactility relies on the trained ability to sense the attributes of tissues through both an instrument and the hand itself. A passage from the *Suśrutasamhitā* amply illustrates this as it instructs and warns of the dangerous procedure for perineal removal of urinary stones. A procedure known today as “perineal lithotomy” engages with a similar entry point for removing a urinary stone. As the descriptions of the condition and procedure that follows illustrate, even among surgeries, this was regarded as an extremely dangerous procedure.<sup>86</sup> The surgeon must assess that the procedure is absolutely necessary by exhausting all of the alternative treatments first, only after which he must then obtain additional permission from the authorities. Still, the *Suśrutasamhitā* does not assure success for even the most experienced surgeon.<sup>87</sup>

A dramatic caution opens the chapter describing the treatment of *aśmarī*, urinary stones or gravel: “It is understood [that] urinary gravel is a harsh disease resembling death. A newly arisen [stone] is curable with medicines, one should incise a fully developed [stone].”<sup>88</sup> After describing the characteristics of different types of stones, the treatise warns:

If [the urinary stone] is not alleviated by ghees, caustic alkalis, decoctions, milk porridges, urethral enemas, etc., incision is the method that should follow after that.<sup>89</sup>

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*bhraṣṭagudasya tu vinā yantreṇa kṣārādikarma prayuñjīta*|(SS Ci 6.8)

<sup>84</sup> *pītvā madyaṃ nigadaṃ rathena hayena vā śīghrajavena yāyāt |*

*taiḥ śarkarā pracyavate 'śmarī tu śāmyen na cec chalyavid uddharet tām ||* (CS Ci 26.68)

<sup>85</sup> *Carakasamhitā* 2009, 602

<sup>86</sup> Famously, the Hippocratic Oath contains a line forbidding this procedure as it is regarded as the province of specialists. For a comparison of early Greek and South Asian surgery see Deshpande, “An Investigation into Ancient Greco-Indian Medical Exchanges: Sostratus vs Suśruta.”

<sup>87</sup> Dr. Arun, the physician-scholar discussed in Chapter Two, cited this passage as the exemplar of the bodily intimacy, trained knowledge, and sensing of attributes essential to surgical touch.

<sup>88</sup> *aśmarī dāruṇo vyādhir antakapratimo mataḥ |*

*auśadhais taruṇaḥ sādhyah pravṛddhas chedam arhati ||* (SS Ci 7.3)

<sup>89</sup> For clarity, there are places in this passage where I replace a pronoun with its referent in brackets.

*ghṛtaiḥ kṣāraiḥ kaśāyaiś ca kṣīraiḥ sottarabastibhiḥ |*

*yadi nopaśamaṃ gacchec chedas tatrottaro vidhiḥ ||* (SS Ci 7.27)

Since here even the skilled physician’s success is uncertain, this is described as the final treatment.<sup>90</sup> If it is certain that death will ensue if no action is taken, and if the outcome is a doubtful if action is taken, then the conscientious practitioner should act only after requesting permission from the authority.<sup>91</sup>

Although requesting permission from authorities is already listed as a pre-requisite for surgery in the treatise, the surgeon is cautioned to do this yet again, asking permission from the “lord” *īśvara*, which could refer to a divine or human authority. As in the *Carakasamhitā*, other methods for removal of the stone are to be tried first, however if we look at the substance and organization of the chapter in the *Suśrutasamhitā*, this procedure is described at more length than any other. The harrowing procedure is described in great detail as follows:

Now, the patient [should be] inuncted, *doṣas* removed, slightly thin, body sweated and oiled. After feeding him, reciting preparatory blessings and prayers and making offerings, with arrangements as told in the chapter “regarding prior preparations [for surgery],”<sup>92</sup> having reassured him, the strong and steady [patient], forepart of the body on the lap of another man, seated at the front on a knee-high bench, supine, buttocks turned upwards fixed by the support of a cloth, having elbows and knees contracted, is bound together with the other man by rope or cloths. Then, having rubbed the left side of the region of the well-anointed navel [the physician] should press down with a fist until the calculus descends from the navel, in this manner. Then, having placed, into the anus, the middle and forefinger of the left hand, lubricated, nails cut, having reached the seam of the penis (*anusevanīm*, perineal raphe) with force and effort, having brought [the stone] in between the penis and anus, making the bladder free from pain, close, and even, with two fingers one should repeatedly press outwards so that the painful object (*śalya*) becomes raised like a lump.<sup>93</sup>

But if when the stone is grasped [the patient] has rolling eyes, loss of consciousness, and head dangling as if struck—resembling death, without change—<sup>94</sup>one should not remove

<sup>90</sup> *kuśalasyāpi vaidyasya yataḥ siddhir ihādhrivā | upakramo jaghanyo ’yam ataḥ saṃparikīrtitaḥ || (SS Ci 7.28)*

<sup>91</sup> *akriyāyām dhruvo mṛtyuḥ kriyāyām saṃśayo bhavet | tasmād āprcchya kartavyam īśvaram sādrukāriṇā || (SS Ci 7.29)*

<sup>92</sup> This is a reference to *Suśrutasamhitā Sūtrasthāna* chapter 5, titled ‘*agropaharaṇīyam adhyāyam.*’

<sup>93</sup> *atha rogānvitam upasnigdham apakṛṣṭadoṣam īṣatkarṣitam abhyaktasvinnaśarīram bhuktavantam kṛtabalimaṅgalasvastivācanam agropaharaṇīyoktena vidhānenopakalpitasambhāram āśvāsya, tato balavantam aviklavam ājānusame phalake prāgupaviṣṭāny apuruṣasyotsaṅge niṣaṇṇapūrvakāyam uttānam unnatakaṭikaṃ vastrādhārapaviṣṭam saṅkucitajānukūrparam itareṇa sahāvabaddham sūtreṇa śātakair vā, tataḥ svabhyaktanābhīpradeśasya vāmapārśvam vimṛdya muṣṭinā ’vapīḍayed adhonābher yāvad aśmaryadhaḥ prapanneti, tataḥ snehābhyakte klṛptanakte vāmahastapradeśinīmadhyame aṅgulyau pāyau prañidhāyānusevanīm āsādyā prayatnabalābhyām pāyumedhrāntaram ānīya, nirvyalīkam anāyatam aṣṣamam ca bastim sanniveśya, bhṛśam utpīḍayed aṅgulibhyām yathā granthir ivonnatam śalyam bhavati || (SS Ci 7.30)*

<sup>94</sup> *sa ced grhītaśalye tu vivṛtākṣo vicetanaḥ | hatavallambaśīrṣaś ca nirvikāro mṛtopamaḥ || (SS Ci 7.31)*

his stone, because if removed, he might die. But when these symptoms are absent, one should certainly try to remove [the stone].<sup>95</sup>

Then, on the left side of the seam of the penis leaving the measure of a barley grain, one should apply the instrument having the measure of the urinary stone (*aśmarī*). Or some say, on account of the ease of action of the procedure, on the right [side]. One should endeavor in such a way as not to split or fragment the stone; even a small amount of powder located there, indeed, can lead to another growth. Therefore, one should grab the entirety [of the stone] with a bent-tipped instrument. However, women's urethra is close to the uterus; therefore, one should insert a straight instrument for them, indeed, otherwise they might sustain a wound flowing with urine. Or a man's flow of urine [might arise] from injuring the passage of urine. Except in the case of a wound caused by urinary stone [removal] one having a singly split-bladder does not live; one having a doubly split bladder with urinary stone is not curable; on account of the wound caused by urinary stone [removal], one having a singly split bladder lives because of the practice of the action of cutting as prescribed in the treatise, and because of the increased downward movement of the painful object.<sup>96</sup>

The opening actions show the importance of the qualities of informed judgment and discernment for the surgeon, who must be able to accurately assess a patient's condition and then proceed with an appropriate blend of caution and confidence. This passage also evidences knowledge of typical female anatomy and includes special instructions for how to proceed in cutting out a stone without injuring a woman's urethra. A lengthy prose section instructs the surgeon in the standard preparatory procedures, including incision, alleviation of excess humors, oleation, and sweating. The patient is to be "slightly thin" in order to facilitate the surgeon's tactile capacity to locate and move the urinary stone. When preparations are complete, the patient is to be reassured, suggesting that the confident demeanor of the practitioner is crucial given the danger and pain faced by the patient. Reassurance may also have been offered by the attendant to whom the patient is bound: the patient's limbs must be secured to the lap of another man, illustrating the attendant's crucial role in supporting and restraining patients for major surgical procedures. The procedure that follows requires ambidextrous skill on the part of the physician, as first they must massage and then push down the urinary stone with a fist. Then, through insertion and palpation, they press the stone outwards until it is visible. Now, stone in place, the surgeon must decide whether to proceed. Two verses provide instruction and caution, noting that if the patient

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<sup>95</sup> *na tasya nirharec chalyaṃ nirharet tu mriyeta saḥ |  
vinā tv eteṣu rūpeṣu nirhartuṃ prayateta vai || (SS Ci 7.32)*

<sup>96</sup> I translate "*śalya*" as "painful object" and "*aśmarī*" as "urinary stone." In this passage, these terms refer to the same entity troubling the body, however, "*śalya*" emphasizes the quality of sharpness and therefore the attendant pain and danger that it poses to the patient.

*tataḥ savye pārśve sevānīm yavamātreṇa muktvā 'vacārayec chastram aśmarīpramāṇam, dakṣiṇato vā kriyāsaukaryahetor ityēke, yathā sā na bhidyate cūrṇyate vā tathā prayateta, cūrṇam alpam apy avasthitaṃ hi punaḥ parivṛddhim eti, tasmāt samastām agravakreṇādādīta; strīṇām tu bastipārśvagato garbhāśayaḥ sannikṛṣṭaḥ, tasmāt tāsām utsaṅgavac chastram pātayet, ato 'nyathā khalv āsām mūtrasrāvī vraṇo bhavet, puruṣasya vā mūtraprasekakṣaṇanān mūtrakṣaraṇam; aśmarīvraṇādṛte bhinnabastir ekadhā 'pi na bhavati, dvidhā bhinnabastir āsmariko na sidhyati, aśmarīvraṇanimittam ekadhā bhinnabastir jīvati, kriyābhyāsac chāstravīhitacchedān niḥsyandaparivṛddhatvāc ca śalyasyeti | ... (SS Ci 7.33)*

loses consciousness and appears dead, then the surgeon must stop. This is a sure sign of mortal danger. If he decides to continue, then with two fingers of his left hand still inside of the patient, the surgeon cuts with the right hand using a sharp instrument. The incision is tiny and precise. Located one barley-grain-width to the side of the navel the incision must be exactly the size of the stone. At this point the surgeon’s quick deftness, precision, and tactile skill are critical. After cutting, the surgeon uses an instrument to retrieve the stone, but if even a tiny fragment of the stone is left in the patient, the condition may recur. If the bladder is split doubly or singly in a manner that is not precisely in line with the excision described above, the text states that the patient will not survive. The pain of the patient is not mentioned here, only gestured to in the possibility of their losing consciousness. But we must imagine the importance of the surgeon’s combination of quick action, judgment, precision, and tactile skill throughout the procedure. In her ethnography of contemporary North American anatomy and surgery education Rachel Prentice writes of the notion of “good hands” used among surgeons as existing in a “complex interplay” of shifting notions and valuations of technical skill and trained judgment.<sup>97</sup> Similarly, the *Suśrutasaṃhitā* emphasizes sensory knowledge, technical skill, experience, expertise, and judgement, at different moments in the treatise, as constituting the tactile expertise of the surgeon’s hand.<sup>98</sup>

### Part Three: Afterbirth and Gendered Knowledge

As noted above, while touch is ubiquitous, descriptions of the details of touch as practice—how to touch yourself or another—are conspicuously absent in the *Carakasamhitā*. The most detailed description of touch that I have encountered in the treatise is found in *Śārīrasthāna* chapter 8, treating pregnancy and childbirth. The treatise describes how women should help a new mother deliver her placenta in surprising detail, specifying placement of the practitioner’s hands, almost reminiscent of the surgical passages we have just examined. The passage sharply contrasts with the presentations of idealized women as part of a sensual vignette that we have seen, but it builds on the mention of women’s trained touch explored in section one of this chapter. Given that this passage contains an unusual level of detail and represents the trained touch of women, it seems to reflect the absorption, or appropriation, of tactile gendered knowledge into the treatise.

*Carakasamhitā Śārīrasthāna* chapter 8 outlines conception, gestation, delivery, and care for a newborn baby. As we might expect, proper sensory stimuli are critical to the health of the mother and, most importantly to the text, for the development of a healthy baby. The type of sensory input received by the mother, the types of food eaten, and her behavior are understood to

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<sup>97</sup> Prentice, *Bodies in Formation*, Chapter 3.

<sup>98</sup> In *Bodies in Formation*, Prentice notes that the word surgeon, deriving from the Greek “*cheir* (hand) and *ergon* (work),” emphasizes the centrality of the hand to surgical action (110). The Sanskrit term *śalyahartr*, rather, emphasizes the removal of a sharp substance causing pain. However, Laura Massetti (2018/19) notes similarities between the Greek god Chiron associated with “the healing hand” and the Vedic God Rudra, who is known as having a “merciful hand” that is a “healing remedy” (Brereton and Jamison, *Rigveda*, 1:449). According to Massetti both deities are associated with the healing power of their hands and also with hunting and wild animals. The complex historical links between ancient Mediterranean and Indian medicines are beyond the scope of this paper. But it is notable that the passage I translate on perineal lithotomy is strikingly similar to a passage in Cornelius Celsus’ first-century *De Medicina*. Celsus and Collier, *A Translation of the Eight Books of Aul. Corn. Celsus on Medicine*, 306–311. Also see Deshpande, “An Investigation into Ancient Greco-Indian Medical Exchanges: Sostratus vs Suśruta.”

impact the nature of the child she is carrying. Tactile contact is important throughout the chapter. But it is not at the key moment, the delivery of the baby, that we first find a detailed description of touch as practice. Rather, touch emerges with the delivery of the afterbirth, a bloody and unglamorous process essential to the survival of both the mother and the baby. Leading up to the placenta delivery we begin to see touch used in novel ways, as the pregnant woman is prescribed to wear an amulet with certain herbs, and even simply to touch these herbs (*CS Śā* 8.20).<sup>99</sup> In particular, touch begins to emerge as prominent in some of the descriptions of medical treatments to be used when a pregnancy has gone awry. In the case of a fetus that is unmoving (*na spandate*) in the womb, we find a description of touch including more detail than other passages thus far in the text, naming the parts of the body that should be rubbed and the specific aim of the contact. After ingesting specific foods and drinks, then she should be rubbed with oil: “At once, one should treat her by rubbing with warm sesame oil her belly, bladder, groin, thighs, buttocks, sides, and back.”<sup>100</sup>

Martha Selby writes of this section of the *Śārīrasthāna* at length, describing the ways that we can infer the knowledge of a category of “experienced” or “accomplished” women (*āptāḥ striyaḥ*) present in the text. She maps out two distinct gendered zones in the medical prescriptions surrounding delivery and birth, linked to the ancient *agni/soma* binary, a hot, red, female zone inhabited by the laboring woman surrounded by “helpful” women, and a white, cool, male zone inhabited by the physician and Brahmin priests.<sup>101</sup> Her process of Jamesonian “reading between the lines” involves identifying descriptions that could have only come from the experience of a laboring woman, for example, the sensation of the fetus loosening described as “a feeling as if a bandage has been removed from the chest.”<sup>102</sup> Ultimately, Selby’s method yields an argument regarding the interface between distinct gendered domains of knowledge in the delivery process. As she explains, “There seems to be an exchange of knowledge, of a meeting of the divisions between public, male clinical description and a more private, subjective female narration of symptoms and experience that has gone into the making of these texts.”<sup>103</sup>

Selby’s argument hinges on sensory clues that reveal the somatic experience of childbirth, an exclusively female domain, present in the passages. *Āpta*, here used as an adjective derived from the verbal root  $\sqrt{āp}$ , literally means obtained, but it also means “apt, fit, true, exact, clever, trusted, trustworthy” and “confidential and intimate, related, acquainted.”<sup>104</sup> Selby’s translations capture the sense that these women have also had children, they have gained this knowledge through having “obtained” experience/children, and that they are “accomplished.” Following the cognate meaning of “apt” we could take this a step further to translate the term as “skilled women,” suggesting a form of technical or skilled touch employed by women in the birthing practice. We may see evidence of this specialized knowledge in *CS Śā* 8.38, here, translated by Selby:

<sup>99</sup> Martha Selby treats at length the rituals used to ensure a healthy pregnancy as well as the birth of a male child, though she notes there is one ritual in which parents may ask for a healthy girl child. See Selby, “Narratives of Conception, Gestation, and Labour.”

<sup>100</sup> *tailābhyaṅgena cāsyā abhīkṣṇam udarorukaṭīpārśvaprṣṭhapradeśānīśaduṣṇenopacaret ||* (*CS Śā* 8.28)

<sup>101</sup> Selby, “Narratives of Conception, Gestation and Labor,” 260, 273.

<sup>102</sup> Selby, 273.

<sup>103</sup> Selby, 272.

<sup>104</sup> Monier-Williams, *A Sanskrit-English Dictionary*, 142.

If she is being tormented by birth pangs but should not give birth, one might say to her: “Stand up. Grab hold of either of these two pestles, and with it, thump away every now and again at this mortar filled with grain. Take deep breaths now and then, and go for a walk at intervals.” Some people recommend this. But the blessed Ātreya has advised against this. Indeed, the exclusion of violent exercise for a pregnant woman is always recommended, and especially at the time of delivery when the *dhātus* [tissue elements] and *doṣas* of a fragile woman are set in motion.<sup>105</sup>

At issue is how the woman in labor should employ touch and motion in order to facilitate the birthing process. Following Selby’s argument, this passage attests to a conflict between two viewpoints on delivery. One of these may be of the experienced/skilled women, perhaps cited as “some people,” and the other, the male medical establishment, here represented as the voice of the sage Ātreya.

A few stanzas later we find our passage of interest, with an unusually detailed description of how the new mother is to be assisted in delivery of the afterbirth. Selby does not address this passage as her article ends with the delivery of the baby. Here, I translate the first five of nine things to be done to assist with the expulsion of the placenta, in *Carakasamhitā Śārīrasthāna* 8.41:

And when she is with offspring one should examine her immediately. Whosoever’s afterbirth does not descend—if her afterbirth is not forthcoming, now, another woman pressing firmly with the right hand on the upper part of the navel, taking hold behind the back with the left hand, should thoroughly shake her. Now, with her heel she (the woman assisting) should cause a bend in the hip(s) [of the patient]. Taking hold of her two buttocks she (the woman assisting) should press firmly. Then one should touch her throat and palate with a braid made by a child.<sup>106</sup> And one should fumigate her vagina with birch bark, quartz, and shed snakeskin.<sup>107</sup>

Unusual in this passage is the detail of the description, explaining which body part of the woman assisting should touch which part of the patient, and how this should be done, i.e., the right hand should be used to firmly press the navel and the left hand, positioned behind her back, should thoroughly shake. It is not clear whether all of these actions are to be taken in succession by one woman who is helping, perhaps an attendant or midwife, or whether they are each to be performed by one of the several women present.

Given the lack of detailed descriptions of touch in the *Carakasamhitā*, why is this passage described in such detail, and for whom is the passage intended? Why is this the most detailed description of touch found in the treatise? I suggest that, following Selby, we understand this passage to reflect the knowledge of a group of skilled or experienced women. But beyond this, its inclusion in the text seems to represent an absorption or appropriation of this knowledge

<sup>105</sup> Selby, “Narratives of Conception, Gestation, and Labour,” 269–270.

<sup>106</sup> *bālavenyā* is glossed as *bālakṛtā veṇī bālavenī*.

<sup>107</sup> *yadā ca prajāta syāt tadaivainām avekṣeta—kācidasyā aparā prapannā na / tasyāśced aparā na prapannā syād athaināmanyatamā strī dakṣiṇena pāṇinā nābher upariṣṭād balavan nipīḍya savyena pāṇinā pṛṣṭhata upasamgrhya tāṃ sunirdhūtaṃ nirdhunuyāt | athāsyāḥ pārṣṇyā śronīmākoṭayet / asyāḥ sphicāv upasamgrhya supīḍitaṃ pīḍayet | athāsyā bālavenyā kaṇṭhatālu parimṛśet | bhūrjapatrakācamāṇisarpanirmokaiś cāsyā yoniṃ dhūpayet | (CS Śā 8.41)*

into the treatise by the treatise's male authors. Perhaps the passage was incorporated to enable male physicians to instruct inexperienced women in this life-or-death procedure, or for the sake of authorial comprehensiveness. In either case, this description of touch is included precisely because the afterbirth delivery resides in the domain of "skilled women," and therefore it is encoded in detail as an appropriation of this form of gendered tactile knowledge.

If this knowledge, like practices of *abhyāṅga* or *saṃvāhana*, represent a form of "tacit knowledge" possessed by a figure other than the male physician, then it is all the more remarkable that a detailed description is included within the treatise. This suggests that the passage represent a form of expertise vital to the art of the physician, similar to that of the art of a surgeon, which must be learned both through the treatise and through practice.



## CHAPTER FIVE

### Touching A Leech Matters

This chapter begins with an admission of affinity for leeches, in Sanskrit, *jalaukasah*.<sup>1</sup> The first time I held one in my gloved hand, I was moved by the softness and strength of their small agile body flexing and squirming. At that moment, I was also an object of alarm and amusement to the clinician who had handed me the leech. When she instructed me to purgethe leech by stroking from tail to head with gentle pressure, my hand was oriented the wrong way and a fast, thin stream of blood shot out, almost spraying my colleague’s blue kurta. So, like anthropologist Anna Tsing’s admission of her love for matsutake mushrooms, my engagements in this chapter also hinge on “a new passionate immersion into the lives of the non-human subjects being studied.”<sup>2</sup> Tsing asks, “How do lovers of fungi practice *arts of inclusion* that call to others? In these times of extinction, when even slight acquaintance can make the difference between preservation and callous disregard, we might want to know.”<sup>3</sup> By exploring the complex agentive role of leeches in Āyurvedic leech therapy (*jalaukāvacaṛaṇa*) as it is practiced in a clinic in Kerala and represented in classical Sanskrit treatises, this chapter moves to widen their affective audience beyond patients relieved by leeches sucking and practitioners wrangling leeches with fond irritation. Practicing the *arts of inclusion*, experiencing and recognizing leeches as sensual and loveable as well as instrumental and agentive, enables a discussion that expands our understanding of touch and translation, and challenges categories of classification—both within the schemas of classical Āyurvedic treatises and in science studies thinking on agencies. As we shall see, whether, when, where, and how a leech decides to bite, suck, and release, comprise pivotal junctures in the vascular practice of *jalaukāvacaṛaṇa*.<sup>4</sup> Further, by focusing on leeches in a study of touch in the “ecological doctrine” of Āyurvedic medicine—guided by leeches’ simultaneous animation and troubling of the pages of classical treatises and clinical processes—I also call attention to leech ecology and conservation on the Indian subcontinent.<sup>5</sup>

The ethnographic portion of the chapter is based on the observation and documentation of

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<sup>1</sup> The three terms used for leech in *Suśrutasaṃhitā Sūtrasthāna* chapter 13 are *jalaukas* (m, f pl. only), *jalaukā* (f), and *jalāyukā* (f). According to Monier Williams, in *SS Sū. 13 jalaukas* appears in this *adhyāya* in a feminine form which is “said to be used in pl. only” appearing as *jalaukasah*. Elsewhere in *SS* we also find the etymologically related term *jalauka* (m) (*SS Sū 29.80*). See Monier-Williams, *Sanskrit-English Dictionary*, 416.

<sup>2</sup> Anna Tsing. “Arts of Inclusion,” 201.

<sup>3</sup> Tsing, 192.

<sup>4</sup> The problem of enticing a leech to bite is not unique to Āyurvedic leech therapy. To address this practical concern in nineteenth-century Europe, tube-shaped glass devices, called “leech glasses,” were developed to restrict a leech’s probing head movements and orient its bite. Kirk and Pemberton, *Leech*, 68. This issue persists into the present. As a group of plastic and reconstructive surgeons in the UK writes, “We thus would like to recommend an easy, noninvasive, and reliable method for dealing with ‘bloody disobedient’ leeches in our practice.” Their recommendation, especially useful for finger reattachments, is to attach a surgical plastic bandage with a small hole at the desired bite site. Geishauer et al., “Teach the Leech the Site to Bite,” 671.

<sup>5</sup> Frances Zimmerman analyzes classical Āyurveda as an “ecological doctrine” predicated on the normative relationship between the superior landscape of *jaṅgala* (dry scrub; cognate to English ‘jungle’) and the inferior *ānūpa* (marshy land). In this analysis, all living beings exist in fluid and homologous relationship to their environment, and prognosis and treatment are a balancing act between opposite qualities. Zimmerman, *The Jungle and the Aroma of Meats*, 31.

sixteen leech therapy sessions treating lower leg varicose ulcers, over the course of nine months, at a clinic in Southern Kerala. Drawing on strands of queer feminist engagement in science studies, my analysis privileges the intra-actions of selves—multiply-constituted emergent agencies—through touch and intersensoriality. It is an exploration of forms of being in relation, and in Karen Barad’s terms, “intra-action,” through translations of touch. Intra-action assumes the imbrication of epistemology and ontology in the emergent processes of knowing and becoming.<sup>6</sup> Barad’s “agential realism” posits agencies not as belonging to ontologically discrete human or material bodies, but rather, “*matter is substance in its intra-active becoming—not a thing, but a doing, a congealing of agency.*”<sup>7</sup> Through understanding leeches and humans as mutually constitutive and emergent, this analysis of *jalaukāvācāraṇa* reframes questions of agencies and “response-ability.”<sup>8</sup> To a great extent, my intra-action with a leech determines how I matter in the clinic, to humans and leeches alike. When physicians and leeches are moving a patient’s blood from one location to another, this co-operative intra-action shaped by both human and leech intentionality renders both parties as medical practitioners; it matters the blood as matter to be moved.

This chapter resulted from the translations—linguistic, epistemological, ontological, cultural, relational—comprising textual and ethnographic study of Āyurveda. In the clinic where I spent time with leech therapies in Southern Kerala, physicians are continually negotiating with and interpreting the leeches’ behavior, a form of translation. We can understand leeches as translating matter, or substance (*dravya*) through a transformation of attributes (*guṇas*) through the actions (*karman*) of drinking blood and excreting saliva.<sup>9</sup> While translating segments on leeching in the classical treatises, descriptions of leeches and their care and behavior occupy significant space. As we shall see in Chapter Six, of particular importance to the treatises’ authors, commentators, and physicians in the clinic is how one should interpret, or translate, the behavior of the leech and successfully enroll it in the project of treatment. All of these translations are mediated by *touching a leech*. As Barad’s notion of intra-action suggests, *touching a leech* is also *a leech touching*, an encounter that is reciprocal and generative.

<sup>6</sup> Barad, “Posthumanist Performativity,” 801–3.

<sup>7</sup> Barad, 823. Barad’s “agential realism” emerges from her close engagement with the work of physicist Neils Bohr, and in particular his concept of *phenomenon*. His description of a *phenomenon* as the “inseparability of ‘observed object’ and ‘agencies of observation’” can explain, for example, the Heisenberg uncertainty principle—that “position” and momentum” as *phenomena* cannot be simultaneously observed. According to Bohr, these two *phenomena* require a different type of “arrangement” or relation between “observed object” and “agencies of observation,” stationary and moving, respectively. Barad extends this to ontology, noting that “phenomena are the ontological inseparability of agentially intra-acting ‘components.’” Refer to Barad, “Posthumanist Performativity,” 814–15.

<sup>8</sup> Karen Barad, “Meeting the Universe Halfway,” 166.

<sup>9</sup> The framing here rests on the essential philosophical concepts of substance (*dravya*), attribute (*guṇa*), and action (*karman*), discussed in Chapter One. As noted, in the *Carakasamhitā*, these categories are essential to an Āyurvedic understanding the mechanism of action of treatments. Substance (*dravya*) is the substrate in which both attribute (*guṇa*) and action (*karman*) reside. Attribute (*guṇa*) and substance (*dravya*) exist in a relationship of inseparable concomitance (*samāvāya*), as matter and attribute invariably co-exist (*Carakasamhitā Sūtrasthāna* 1.49–53). As discussed in Chapter One, the complete set of six fundamental factors discussed in *Carakasamhitā Sūtrasthāna*, namely *sāmānya*, *viśeṣa*, *guṇa*, *dravya*, *karman*, and *samāvāya* (*CS Sū* 1.28), are similar but not identical to the Vaiśeṣika *padārthas* (categories).

Here, I suggest that we can best understand the process of *jalaukāvācāraṇa*, and the clinical intra-actions it entails, through its *vascularity*. Because of the intra-active nature of the process, it is not only moments of leeches' resistance, or failure to comply, that interest us. A resistance-focused approach, following Michele Callon's study of scallops or Andrew Pickering's work on the material obstacles shaping scientists' intentions in the laboratory "*mangle of practice*," might foreground leeches as disrupting the human agenda of *jalaukāvācāraṇa*.<sup>10</sup> In providing a three-dimensional dynamic and tactile imaginary for the possibilities of leech-human engagements in the clinic, I engage an image of *vascularity*, a multi-dimensional network of resilient paths and branchings—potential tender new paths and dense or tenuous blockages—that enables us to take into account not only resistances and obstacles, but also flow and complicities.

The imaginary of *jalaukāvācāraṇa* as a discrete webbed vascular system also renders palpable the complex entanglements of temporalities and body-ontologies in the practice. The full system of vascular possibilities—branchings and directions for flow—is comprised by both the imaginary of the classical treatises and the negotiations of clinical practice. The image is apt to *jalaukāvācāraṇa*, which translates literally as “application” or “employment” of leeches, a practice framed around the human intentions of healing and palliation. But this agenda is also predicated on leeches' intention to feed on blood. The intra-actions and congealing of agencies into matter that take place at any given branching determine the direction of flow through the multi-dimensional and dynamic structure of the *vascularity* of Āyurvedic leech therapy. It is a practice around which humans and leeches engage to remove blood for healing/imbibe blood for food—to excrete saliva for palliation and healing/excrete saliva for feeding—or not. In the clinic, physicians engage overlapping fluid body mappings as veins, arteries, lymph, *sirās* (vessels), *srotases* (channels), and *dhamanīs* (conduits) come into and out of focus, suggesting an accretive image of a hyper-vascularized body. In the clinic, these body mappings, which we could call biomedical and Āyurvedic, exist and function as both discrete and as hybrid at different moments, constituting the whole of the *vascularity* of Āyurvedic leech therapy.<sup>11</sup> Physicians practice with leeches in reference to the *Suśrutasaṃhitā*, through which the emergent possibilities of unfolding clinical practice indistinguishably refract and reflect with an imagined past.

*Vascularity* represents possibilities and junctures in a non-linear treatment process with many branchings—intra-active congealings of agency, often based upon touch. When a branch is not taken in a session, that does not mean it is not there. It exists somewhere, in another practice on another day or in another imaginary. A vein, artery, or *sirā* can be smooth and unimpeded in one place, and contain a troublesome or life-threatening blockage in another. Vascular channels branch and branch, and branch again, growing narrower and sometimes backing up when the valves responsible for unidirectional flow fail. At a given moment, it is not clear which direction(s) components of the flow will travel at a vascular branching. Arteries branch into capillaries where blood is transformed—translated—from oxygenated to de-oxygenated, and branch back into veins. A venule can become a vein and create a new, larger pathway. Blood may build up in a vein and possibly open into an ulcer, as in the case studies foregrounded in this chapter. The *vascularity* of Āyurvedic leech therapy includes movement through and with

<sup>10</sup> This would be a classic STS approach following, for example, Callon and Pickering. Callon, “Some Elements of a Sociology of Translation; Pickering, “The Mangle of Practice.”

<sup>11</sup> Please refer to Chapter Three where I engage with physicians' intellectual and bodily engagement with intersecting modes of diagnosis.

resistances and obstacles, co-operations and co-optations, squirming and play. As we examine a—literally—vascular practice, *jalaukāvacāraṇa* treatment for lower leg venous ulcers, we also explore the likewise unpredictable *vascularity* of the practice itself, through complex agentic tangling in the clinic.

This chapter responds to a call to “worlding” as a method of mediating the limitations of holistic anthropological and network STS approaches to the study of science and medicine.<sup>12</sup> Here, I am not assuming a holistic and unitary “Keralan Āyurveda” worldview as the frame, nor positioning myself as neutrally engaging with a symmetrical network of actants. Rather, my analytic centers on intra-actions of touch. Donna Haraway’s work gestures in this direction as she asks: “Whom and what do I touch when I touch my dog? How is becoming with a practice of becoming worldly?”<sup>13</sup> Touch as a process of “becoming with” is a world-making endeavor. In “becoming with” leeches, I place the leech, and the reciprocity of touching a leech, at the center of this study while acknowledging a leech’s wide web of world-making engagements. Following its leech-centered engagement, this chapter and the next chapter bring into dialogue the rich contemporary practice of *jalaukāvacāraṇa* in a clinic in southern Kerala, and the earliest surviving detailed description of the practice in South Asia, found in the *Suśrutasamhitā*, an early-first-millennium surgical treatise.

I suggest the concept of the *vascularity* as a tactile, visual, and intersensorial imaginary for understanding the intra-active and dynamic constitution of agencies in a multi-temporal and emergent process. I am calling *jalaukāvacāraṇa* multi-temporal and emergent because, as pointed out above, its practice involves multiple and interacting time frames as well as temporally unfolding and dynamic—emergent—processes. As stated earlier, this model is not one highlighting resistances, but of flows and blockages together. It is also not a symmetrically constituted *vascularity*. Rather, it is one that privileges sensory intra-action at the nodes of agential-cut because many branching points occur at moments of sensory intra-action between living beings in the practice. In the next chapter, I bring classical Āyurvedic conceptions of substance (*dravya*) and sentience, or what I understand as sense-ability, into this analysis of *vascularity*, and into conversation with Barad, Eduardo Kohn, and María Puig de la Bellacasa.

This chapter provides a detailed documentation and multispecies ethnography of the practice of leech therapy in a clinical setting in contemporary Kerala and an analysis of the practice as represented in the *Suśrutasamhitā*. This study shows that both on the page and in the clinic, leeches exceed and challenge Āyurvedic classificatory schemes. As the only non-human actors who simultaneously participate in Āyurvedic diagnosis and treatment, leeches provide a unique vantage point for us to consider the relationship between humans and non-humans, and the nature of medical agency in Āyurvedic theory and practice. Non-venomous leeches are classified as *anuśastra*, accessory or substitute instruments.<sup>14</sup> However, through both textual and ethnographic research, this chapter argues that leeches are also agentic medical actors and vital collaborators in *jalaukāvacāraṇa*. Leeches’ behavior requires translation by physicians, providing critical diagnostic and prognostic information as well as facilitating bloodletting treatment. Leeches must be nurtured and cared for when moved from the open waters of a lake to

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<sup>12</sup> Tsing, “Worlding the Matsutake Diaspora.” Here Tsing refers to “worlding” as a method of mediating between an uncritical holism and a naturalized Actor Network Theory network model.

<sup>13</sup> Haraway, *When Species Meet*, 36.

<sup>14</sup> As we saw in Chapter Two, several non-human species can be observed as part of diagnosis, including ants, dogs and crows. In a separate context, the biting of ants can be engaged in the process of suturing during surgical treatment.

the enclosure of a clinic jar, and they require wrangling, sensitivity, patience, and training on the part of their humans.

The feminist science studies most compelling to Barad are those that are “of the science, materially immersed in and inseparable from it.”<sup>15</sup> *Touching a leech matters*; the intra-actions of holding a leech, purging a leech, moving human blood from leech belly to sink-drain, *mattered* me—white woman and American Sanskritist researcher—in a queer clinical leech-focal kinship. Most of the time I sat in the corner of the treatment room and watched the leeching procedures. But when I was asked to hold gauze, bring a piece of newspaper, catch a leech—then I did. Physicians would often leave the room during the leeching sessions of seventy to one hundred minutes, and I would remain in the room with the patient, taking photos and video, exchanging occasional words with the patient, or acting as an intermediary by summoning the physicians when needed. Sometimes, I put on a glove and retrieved a leech that had released from sucking before they zoomed off of the table.

During the study, I had a recurrent infection in my right lower leg caused by a venomous spider bite incurred in the United States. When I showed my bite to the physicians, they immediately recommended leech therapy. I was a prime candidate. However, due to the very slight possibility of infection with *Aeromonas*, which would require treatment with doxycycline, I chose not to be bitten. I had already been prescribed many rounds of antibiotics for this condition on my leg and they did not seem to be working. I was hesitant to ingest more medication. So, I chose not to exchange my bodily fluids with a leech, but rather, to touch a leech and be mattered through a plastic glove. This body boundary of my choice is part of the “agential cut” of this study, a marker of my intersecting privileges of nationality, skin color, financial resources, education, and mobility.<sup>16</sup> However strong my affinity for leeches and its dictates on my time and physical and intellectual energies, I chose not to be bitten by a leech.

To rephrase and expand upon Haraway’s questions: “Whom and what do I touch when I touch a leech?”<sup>17</sup> What does a leech touch when it touches us? How do leeches act? How do we act with them? What do they sense? How do we sense with them, or through them? Why does touching a leech matter? In order to engage these questions this chapter makes a series of moves in four sections. Part One: *World of Leechcraft*, is a brief survey of scholarly engagements with leeches and leech therapy; Part Two: “*Naughty, Naughty*.” is an ethnography of the messy yet efficacious world of leech-human “intra-actions” in a clinic in Southern Kerala, and engagement with STS theories of agencies.<sup>18</sup> The next chapter, *Leech Trouble*, is a study of leech human-intra

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<sup>15</sup> Barad, “On Touching,” 207.

<sup>16</sup> I use Barad’s term to indicate my own intra-active participation in the clinical world of *jalaukāvācāraṇa*. As they explain, “It is through specific agential intra-actions that the boundaries and properties of the ‘components’ of phenomena become determinate and that particular embodied concepts become meaningful. A specific intra-action (involving a specific material configuration of the ‘apparatus of observation’) enacts an *agential cut* (in contrast to the Cartesian cut—an inherent distinction-between subject and object) effecting a separation between ‘subject’ and ‘object.’ That is, the agential cut enacts a *local* resolution *within* the phenomenon of the inherent ontological indeterminacy.” Barad, “Posthumanist Performativity,” 815. In an earlier article, they describe the ethical entailments of the agential cut, “Knowledge projects entail the drawing of boundaries, the production of phenomena which are material-cultural intra-actions. That is, our constructed knowledges have real material consequences. And therefore, agential realism calls for direct accountability and responsibility.” Barad, “Meeting the Universe Halfway,” 183.

<sup>17</sup> Haraway, *When Species Meet*, 3.

<sup>18</sup> All photos were taken by the author with signed consent by the study participants (when applicable),

action in the idealized world of the *Suśrutasaṃhitā*, an exploration of how they challenge classical Āyurvedic classificatory schemes, and an examination of *jalaukāvacāraṇa* in terms of *guṇas* (attributes).<sup>19</sup>

### Part One: World of Leechcraft<sup>20</sup>

Enacting a leech-centered engagement of *jalaukāvacāraṇa* begins with historically situating its practice in the broader weave of human-leech medical interactions. A brief survey of literature on medicinal leeching reveals, for the most part, a Europe-focused narrative that often mentions India, and less often, China.<sup>21</sup> The narrative is useful for understanding widespread engagement with leeches for therapeutic purposes from an early historical period, but it lacks an attempt to analyze the possibility of a development and exchanges of ideas and practices of medicinal leeching across geographical and cultural space. A comparative study is warranted, as the practice of leech therapy is attested in a similar time-period across the geographic regions of the Mediterranean and South Asia. Further, as we shall see in Chapter Six, the *Suśrutasaṃhitā* mentions *yavana* as one of the locations yielding leeches that are efficacious for leech therapy. The term *yavana* is the Sanskrit word for “Ionia,” and the term derives from the Old Persian Yauna. The earliest Sanskrit attestation is Pāṇini’s grammatical treatise, the *Aṣṭadhyāyī* (approximately fifth century BCE). Jyotir Mitra notes, “The word Yavana was used in medieval Sanskrit literature as a synonym of Mleccha and indicated any foreigner. But as late as the early centuries of the Christian era, it meant to an Indian, only the Greeks.”<sup>22</sup> The geographical reference to the excellence of non-venomous leeches coming from *yavana* gestures to the possibility of a trade in leeches, or spread of information about the efficacy of leeches, from different places across South Asia and beyond. Given that we know the Greeks had a contemporaneous practice of leech therapy and that Gandhara, in the northwestern frontier of South Asia, was a place of robust interaction and blending of Greek and South Asian cultures, further comparative study of leeching and bloodletting philosophies and practices across these geographical and cultural spaces is warranted. This comment seems to suggest an exchange of medical knowledge, and perhaps even the movement of leeches across these territories.

There is some disagreement in the details of the conventional history of leeching, as most scholars seem to participate in a reiterated chain of indirect references rather than consulting primary sources. I attempt to clarify some of these points in my footnotes.<sup>23</sup> The conventional

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unless otherwise indicated.

<sup>19</sup> See Chapters One and Two for a detailed treatment of the concepts of *guṇa* in the classical treatises.

<sup>20</sup> The term “leechcraft” means “medicine” or “healing art.”

<sup>21</sup> An exception to this is a recent chapter by Ellen Wittke-Michalsen, outlining a history of medicinal leeching beginning with Suśruta, but providing no details of the South Asian theory or practice. See Wittke-Michalsen, “The History of Leech Therapy.”

Although most of the narratives omit a discussion of leech therapy in early Chinese medicine, Kirk and Pemberton include the instructive story of the “accidental discovery of the healing properties of leeches,” as described by the scholar Wang Chong (27–100 CE). “A king suffering from ‘constipation of the blood’, on discovering a bloodsucking worm hidden in his salad, swallowed the animal in order to avoid embarrassing those who had prepared his meal. Later, the king found himself cured of his affliction.” Kirk and Pemberton, *Leech*, 47.

<sup>22</sup> Mitra, “The Geographical Data of the Astangasangraha,” 162. For a discussion of the term in relation to religious sectarianism in medieval India see Thapar, “Imagined Religious Communities?” 223.

<sup>23</sup> Although Kirk mentions “ancient Arabic, Persian, Chinese and Sanskrit literature” in one phrase, he

history goes something like this: The earliest evidence for medicinal leeching appears on an ancient Egyptian tomb wall-painting dating to 1500 BCE.<sup>24</sup> In ancient Greece, Nicander of Colophon mentions medicinal leeching in his *Alexipharmaka* between 200–130 BCE.<sup>25</sup> Themison of Laodicea and other Methodic physicians used leeches extensively in their practice, although Hippocrates does not espouse leeching.<sup>26</sup> The famous Roman physician, Galen, mentions the medicinal use of leeches in the second century CE.<sup>27</sup> In India, Suśruta describes leech therapy in his surgical treatise, the *Suśrutasaṃhitā* (“Suśruta’s compendium”), between 300 BCE and 200 CE. (Here the histories fast-forward to the early middle ages.) Avicenna, a renowned Persian physician, details leech therapy in his eleventh-century work *al-Qānūn fī al-*

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also states, “It is in ancient Greece that leeches were first systematically incorporated into medical practice as a calming alternative to other forms of bloodletting,” Kirk and Pemberton, *Leech*, 49. This assertion disregards the fact that the *Suśrutasaṃhitā* may date to a similar, or even earlier, period. It is interesting to note that in Āyurveda leeching is also the gentlest method of bloodletting, a “calming alternative.”

<sup>24</sup> Robert Kirk and Neil Pemberton add the detail that the painting was found on the tomb of the scribe Userhat (c.1567–1308 BCE). Kirk and Pemberton, *Leech*, 47. I was unable to confirm this reference in two separate sources describing Userhat’s tomb, located in Thebes. Hodel-Hoenes, *Life and Death in Ancient*, 65–84; Thierry Benderitter and George Engel, “Userhat – TT 56,” Osirisnet: Tombs of Ancient Egypt, accessed Mar. 6, 2018, [https://www.osirisnet.net/tombes/nobles/ous56/e\\_ouserhat56\\_01.htm](https://www.osirisnet.net/tombes/nobles/ous56/e_ouserhat56_01.htm).

<sup>25</sup> Most secondary sources seem to derive from the same vague history as they report that Nicander’s poem, *Alexipharmaka*, mentions the medicinal use of leeches. For example, see Fields et al., “The History of Leeching and Hirudin,” 3; Mory et al., “The Leech and the Physician,” 878. In fact, in this poem Nicander engages with the leech as a pathology not a treatment. Specifically, he describes treatments in the case that someone accidentally swallows a leech. The treatments include vinegar, preferably taken with snow or ice, a “turbid potion” of “brackish soil,” heated salt water, rock or sea salt. Note that application of sea salt is also listed in the *Suśrutasaṃhitā* as one of the techniques for causing a leech to release its bite. Rather, in another poem of Nicander’s, the *Theriaca*, he mentions leeching as a method of bloodletting to be used as a remedy for scorpion and spider bites. See Nicander, *Poems and Poetical Fragments*, 91, 127–29.

<sup>26</sup> Although Hippocrates did not discuss medicinal leeching, like Nicander, his work mentions the treatment of a leech stuck in the throat. See Westfell, *On the Leech and Its Use in Medicine*, 6. Also, the Hippocratic humoral understanding of the body did lead to use of bloodletting. The Methodic school, founded by Themison, understood disease as caused by “constriction” or “dilation,” and the constriction diseases, such as headache, liver disease, gout, and arthritis could be treated by leeching. See Wittke-Michalsen, *The History of Leech Therapy*, 4. However, in his comparative history of classical Greek and Chinese medicine, Shigehisa Kuriyama argues, “The transformation of bloodletting from a relatively minor remedy to an indispensable pillar of Greek therapeutics turned, I suggest, on the concept of plethora. Underlying the earnest commitment to phlebotomy was the dread of excess blood.” Kuriyama, “Interpreting the History of Bloodletting,” 27.

<sup>27</sup> Secondary sources disagree as to whether Galen or his school presented leeches as a method of alleviating excess humors. Wittke-Michaelsen notes, “The therapeutic of leeches became fashionable and had its first heyday around the middle of the 1st Century CE. An ancient writing credited to the school of the Roman physician Galen (129–199 CE) classified leeching as part of the system of elements (fire, earth, air, and water) and temperaments (sanguine, phlegmatic, choleric, and melancholic) the healthy balance of which required the drainage of excess corporal substances.” Wittke-Michaelsen, *The History of Leech Therapy*, 5–6. Kirk and Pemberton, while stating that Galen did not mention leech therapy, note that Galen did contribute to the spread of bloodletting practices through further popularizing humoral medicine. Kirk and Pemberton, *Leech*, 50.

*Tibb* (The Canon of Medicine).<sup>28</sup> Medical leeching became so widespread and popular in nineteenth-century France that the European medicinal leech (*hirudo medicinalis*) was driven nearly to extinction in Europe.<sup>29</sup> In 1884, a British scientist, John Berry Haycraft, discovered and named an anticoagulant substance isolated in leech saliva: hirudin.<sup>30</sup> Leeching gradually fell out of favor for medical use in Europe, but recent decades have seen the resurgence of leeches playing a role in medical treatments, particularly for healing skin grafts and in reconstructive surgery.<sup>31</sup>

This narrative does not account for the history of leeching in South Asia, except to note that the practice was attested very early in India. One exception to this is a short but provocative article documenting an active trade in leeches from Pondicherry, on the southeastern coast of India, to the French colony of Mauritius in the nineteenth century.<sup>32</sup> According to Meulenbeld's *History of Indian Medicine*, there are at least six substantial extant sources on *jalaukāvacāraṇa* produced in the first millennium, largely based upon the *Suśrutasaṃhitā*, although more research remains to be done.<sup>33</sup> In the medieval period, the terms *jalauka* and *jalūkā* appear in alchemical

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<sup>28</sup> Avicenna considers leeches to draw blood out from the human body more deeply than cupping. He is also concerned with their unruliness, as according to O. Cameron Gruner's translation: "To ensure that they will not crawl into the gullet, or nose, or anus, one must draw a thread through the tail end from above down—not from side to side, otherwise one would injure the large blood vessels of the animal." Avicenna, *A Treatise on the Canon of Medicine of Avicenna*, 512–514. Avicenna's Greco-Arabic medical treatise is the foundation of Unani Tibb, a form of medicine still widely practiced in India today.

<sup>29</sup> In Europe, Galenic medicine persisted until the seventeenth century when it was confronted with iatrochemistry and iatrophysics. While the former opposed bloodletting, the latter school, based on an understanding of blood circulation, found bloodletting indispensable. As Wittke-Michaelsen notes, "A combination of iatromechanic theories and Galen's humoral concept of disease predominated in 18th century medicine." Leeching did not cause weakness; it was effective for reaching difficult to access areas, and leeches were also used for a number of conditions such as arthritis, gout, and varicose veins. Wittke-Michalsen, *The History of Leech Therapy*, 8.

During the nineteenth century over one billion leeches were imported into France for medical use, many coming from Russia and central Europe. See Sawyer, "Why We Need to Save the Medicinal Leech," 165–6; Fields, "The History of Leeching and Hirudin," 3–10; Malcolm, "Medicinal Leeches," 21–41.

<sup>30</sup> This powerful anticoagulant, although not widely used due to limited availability, "is the most potent known natural thrombin inhibitor," and synthetic forms have been developed. Markwardt, "Hirudin as Alternative Anticoagulant—A Historical Review."

<sup>31</sup> Additional sources echoing some or all of this narrative include the following: Sawyer, "Why We Need to Save the Medicinal Leech"; Whitaker et al., "Historical Article: *Hirudo Medicinalis*, Ancient Origins of, and Trends in the Use of Medicinal Leeches Throughout History"; Munshi et al., "Leeching in the History—a Review"; Elliott et al., "Medicinal Leeches: Historical Use, Ecology, Genetics and Conservation"; Parimannan et al., "An Overview of Leech and Its Therapeutic Applications."

<sup>32</sup> Sawyer also notes that after the abolition of slavery in the British and French West Indies in 1837 and 1848, respectively, when "laborers were brought from India to work on the plantations" starting in 1870 the British government required that for every 100 people 100 leeches were carried on board. These leeches were *Hirudinaria manillensis*. Sawyer, "The Trade in Medicinal Leeches in the Southern Indian Ocean in the Nineteenth Century," 244.

<sup>33</sup> In addition to the *Suśrutasaṃhitā*, *Aṣṭāṅgasamgraha Aṣṭāṅgahrdayam*, *Hārītasamhitā*, *Kalyāṇakāraka*, and *Hastāyurveda*, the *Carakasamhitā* mentions leech therapy in numerous places, but does not describe it in detail. It is presented in a list of surgical interventions (*CS Sū* 11.55), a general list of medicines; treatments, and regimens (*CS Sū* 25.40); for the treatment of *arśas* (piles), *vātarakta* (*vāta*-afflicted blood)



texts.<sup>34</sup> Descriptions of the purification of leeches for repeated use in bloodletting are found in the *Rasendrasārasaṅgraha* (probably fifteenth or sixteenth century, maybe eighteenth), *Vaidyakaśāroddhāra* (unknown dating but later than *Rasendrasārasaṅgraha*), and *Rasajalanidhi* (early twentieth century).<sup>35</sup> Resuming in the eighteenth century, there are several texts that describe leech therapy, such as the eighteenth-century (or later) *Bṛhadvaidyaratnākara*.<sup>36</sup> Because this chronology relies on Meulenbeld's unique and monumental work in the form of the five-volume indexed *History of Indian Medical Literature*, which includes texts in Sanskrit, Pāli, Prakrit, and some in Hindi, but none in the South Indian languages of Tamil and Malayalam (for the later period), further study on the continuity and traditions of leech therapy in the intertwined practices of Tamil Siddha medicine and Āyurveda is warranted. In the future, I hope to undertake a study of the history of leeching in South Asia, and a comparative study of leech therapy around the turn of the Common Era across the Mediterranean, India, and China.<sup>37</sup>

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(*CS Ci* 29.36–37), and *granthavīsarpa* (a type of erysipelas) (*CS Ci* 21.119); along with the horn and gourd for *doṣa*-specific treatment of *kuṣṭha* (leprosy) (*CS Ci* 7.52), *rājyakṣman* (a respiratory ailment often translated as tuberculosis) (*CS Ci* 8.82), and *visarpa* (erysipelas) (*CS Ci* 21.69); and with horn, gourd, pricking, and venesection for poisonous bites (*CS Ci* 23.39). The bites of venomous leeches with their symptoms and treatments are described in *CS Ci* 23. I am translating the Sanskrit terms into their most commonly used English equivalents to give the reader a sense of the condition to be treated by leeches, however, I do not assume a direct correspondence between the terms as they are based upon different diagnostic premises.

Meulenbeld notes that the *Bhālukitantra*, a surgical treatise known only through numerous citations, also described leech therapy. Meulenbeld, *HIML*, 1A:689–90.

<sup>34</sup> The term *jalūkā* appears in the fourteenth-century *Rasendramaṅgala*, referring to female aphrodisiac vaginal suppositories made of solidified (*baddha*) mercury that come in three different sizes (4.156–161), and the term *jalaukā* is used in the fifteenth-century *Rasaratnākara* in reference to pills in the shape of leeches that suppress male ejaculation. Meulenbeld, *HIML*, 2A:716 and 663.

Nāgārjuna, *Rasendra Maṅgalam*, 154–155.

<sup>35</sup> Meulenbeld, *HIML*, 2A:727, 443, and 626. A procedure for *jalaukaśodhana* (purification of leeches) for repeated use in *raktamokṣa* is given in the *Rasendrasārasaṅgraha* 1.375–376 and in 1.377 in a lengthy section on the purification of a variety of materia medica. In the subsequent verse, the author provides a short description of the characteristics of leeches to be cast aside by physicians desiring renown. See Gopālakṣṇa, *Rasendra Sāra Saṅgraha*, 263.

<sup>36</sup> Meulenbeld, *HIML*, 2A:490.

<sup>37</sup> For a close comparative reading of selected early Greek, Roman, and Byzantine writers on leeching, see Papavramidou, “Medicinal Use of Leeches in the Texts of Ancient Greek, Roman and Early Byzantine Writers.” One feature of Greek medicine that is not shared by Āyurveda is an abiding concern with the removal of leech venom during medicinal leeching. Papavramidou and Christopoulou-Aletra, “Medicinal Use of Leeches,” 625. Āyurvedic classification, rather, distinguishes between non-venomous and venomous leeches, and only the non-venomous leeches are used for bloodletting treatment, as described in *CS Sū* 11.55, *SS Sū* 13 and *Ka* 3, *AS Sū* 34 and *Ut* 43.26. Venomous leeches are described in contrast to non-venomous leeches in *SS Sū* 13. They are also included in lists of venomous animals and the symptoms and treatment for their bites, for example *CS Ci* 23.155, *SS Ka* 8.37, *AS Ut* 43.26–27. A model for future comparative work between classical Indian and Greek leeching, Shigehisa Kuriyama compares classical Chinese and Greek philosophies and practices of bloodletting in Kuriyama, “Interpreting the History of Bloodletting” and Kuriyama, “Chapter V: Blood and Life,” in *The Expressiveness of the Body*.

## Part Two: “Naughty, Naughty.”

On a micro-scale, clinic-time is linear. A patient arrives, participates in leech therapy, receives medicines and instructions, and leaves. On a medium scale, it is linear and cyclic. A patient comes, is treated, leaves, waits seven to fourteen days (or more), comes again hopefully showing improvement, is treated, repeat. This latter cycle is heavily mediated by a spectrum of compliance with regards to medicine and home-care instructions. Sometimes the cycle is interrupted—by holidays, weddings, excursions to other forms of medical care, or financial challenges—only to be resumed when the patient is ready. Other times, the cycle is ended before the healing is complete. Of course, we can’t know what clinic time feels like to a leech, a being capable of surviving for a year on one feeding, and whose life cycle in the wild involves long hibernation periods. In this clinic, a leech may spend their time curled up with other leeches and nourished by packaged turtle food, or else conscripted into medical treatment, entering a cycle of feeding and purging mediated by treatment regimens and the vagaries of human schedules and inclinations. Since leeches are hermaphroditic, named through all three grammatical genders in Sanskrit, and agentive beings in leech therapy, I refer to them by the pronouns they/them/their.<sup>38</sup>

### *Lotus Pond*

To follow a leech that might end up in the clinic, we begin in a pond. Pond time is slow and seasonal. For a leech, it is digestive hibernation punctuated by occasional hunting, foraging, and feeding. This pond is neither a real nor an imagined pond. It is both, because in order to be a



Figure 4: Leech Habitat in Southwestern Tamil Nadu (“Pāṇḍya”)

breeding habitat for non-venomous leeches it *must*, by definition, be a pond filled with clean water indicated by its being populated by lotuses and other typologically similar flora and fauna (See Figure 4).<sup>39</sup> Two Sanskrit etymologies for “leeches” are given in the *Suśrutasamhitā*: “‘jalāyukāḥ’ (leeches, f, pl.) ‘those whose life is water’ and ‘jalaukaṣaḥ’ (leeches, m/f, pl.) ‘those whose abode is water.’”<sup>40</sup> Comparing these terms to the Latin *sanguisuga* “bloodsucker” which emphasizes the feeding action of a leech in relation to a host, the Sanskrit terms emphasize water as the lifeworld,

<sup>38</sup> At this particular clinic, they fed their leeches with imported turtle food from China, other clinics feed leeches with dried lotus stalk powder (lotus stalk, *tāmara tandū*).

<sup>39</sup> During an outing, the landscape in Figure 1 was pointed out to me as an ideal non-venomous leech habitat based on the abundance of lotuses. This is one of the main criteria for the presence of non-venomous leeches described in the *Suśrutasamhitā*, and Pāṇḍya is listed as a location where one might obtain high quality leeches (*SS Sū* 13.13–15). All photos in this chapter were taken by the author with permission of the clinic physicians.

<sup>40</sup> *jalāmāsām āyur iti jalāyukāḥ | jalāmāsām oka iti jalaukaṣaḥ || (SS Sū 13.9)*

habitat, and very nature of leeches.<sup>41</sup> Leeches are fluid bodies, and according to Francis Zimmerman’s work so are all organisms in an Āyurvedic ecology. Living beings, including humans, are part of a system at once fluid and unencumbered, and participating in a somatic interface with their environment. This interaction is porous, leading to an ecological homology explained by Zimmerman as a “resemblance through contagion of proximity, an osmosis between the living creature and the environment in which it lives.”<sup>42</sup> For example, (in most treatises) venomous and non-venomous leech attributes are homologous to the attributes of their habitats.<sup>43</sup>

In the first pages of Mahesh Chandra’s *The Leeches of India—A Handbook*, published by the Zoological Survey of India in 1991, Chandra explains:

The leeches are of two types, i.e., venomous and non-venomous. Only the non-venomous leeches should be applied for blood sucking. The non-venomous leeches are found in sweet scented waters, live on non-poisonous weeds and suck blood from the affected part of human organisms without causing any discomfort.

The venomous leeches are thick about the middle, elongated, of slow locomotion, look fatigued, capable of sucking only a small quantity of blood, should not be taken as belonging to the commendable type. They have their origin in the decomposed urine and faecal matters of toads and venomous fishes in pools [*sic*] of stagnant and turbid waters and the common zoophytes which live in clear waters.<sup>44</sup>

As will become clear in Chapter Six, this passage seems to be taken almost directly from the *Suśrutasamhitā*. This binary classification of leeches, offered by Chandra immediately after his discussion of Linnaean phylum and order, renders two genealogically distinct forms of classification commensurable and complimentary. Found in a zoological text, this schema presents two types of leeches with qualities homologous to habitat as suitable or not suitable for blood sucking intra-action with humans. A similar seamless epistemic blending is found in a clinical study of leech therapy in India by Syal Kumar et al. The authors state that *Hirudo medicinalis* is the species commonly used for bloodletting in India, and the photograph they provide appears to show the same type of leech that was used in our clinic. Reading on, it becomes clear that their labeling is also epistemically integrative, as their chart of the six venomous and six non-venomous leeches from the *Suśrutasamhitā* is (rather humorously) headed with the categories *Hirudo medicinalis* and *Hirudo detrimentalis*, respectively. Gananath Obeyesekere critiques Zimmerman’s structuralist characterization of Āyurveda as an ecological doctrine and as not empirically grounded in contemporary practice; however, here is a case where the same binary typologies found in the classical corpus persist, not only in a study of contemporary Āyurvedic practice, but also in the general understanding of leech ecology.<sup>45</sup>

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<sup>41</sup> On the term *sanguisuga*, see Whitaker et al., “Historical Article: *Hirudo Medicinalis*.”

<sup>42</sup> Zimmermann, *The Jungle and the Aroma of Meats*, 121.

<sup>43</sup> The exception to this homology is found in the is the *Hārītasamhitā*.

<sup>44</sup> Chandra, *The Leeches of India*, 1.

<sup>45</sup> Of course, this may have been a general cultural notion that persisted both in medical and general knowledge. Obeyesekere, “Hindu Medicine and the Aroma of Structuralism.”; Kumar et al. “Clinical Significance of Leech Therapy in Indian Medicine,” 152; Sawyer, “The Trade in Medicinal Leeches,” 244; Elliott et al., “Medicinal Leeches: Historical Use, Ecology, Genetics and Conservation.”

Roy Sawyer states that the species used medicinally in India are *Hirudinaria manillensis* (“cattle leech”) and *Pocilobdella granulosa*. A detailed biological study of medicinal leeches including DNA sequencing data labels a photo resembling the clinic leech type as *Hirudinaria manillensis*. Once I made this assessment, the clinic owner, Dr. Lokesh, confirmed that he had learned of *Hirudinaria manillensis* through articles and in workshops on leeching in Kerala, but he also stated that “nobody knows what type of leech we are using in this part of Kerala.” He also said that in Karnataka he had observed two other types of leeches being used in practice, but found that “they are too small.”<sup>46</sup> According to the Linnean system, leeches are hermaphroditic segmented worms from the phylum Annelida. The most well-known and well-studied leech is *Hirudo medicinalis*, a species of European leech used medicinally. Unlike in Europe and Russia where the breeding of leeches has been industrialized and medicinal leeches are bred in “leech factories,”



Figure 5: *Hirudinaria manillensis*?

leeches used for medicinal purposes in India are harvested from ponds and lakes.<sup>47</sup> There is need for a study of leech trade and circulation in South Asia today. *Hirudo medicinalis* is listed as Near Threatened, on the IUCN Red List, with a justification given of wetland loss and climate change.<sup>48</sup> There is no listing for *Hirudo manillensis* and its conservation status in the eleven states where it is found in India is unknown. Given the rapid development of wetlands in South India, loss of habitat is likely the greatest danger to this type of leeches in India.<sup>49</sup>

To gather these aquatic beings, a leech-collector takes a leather bag, or an old shoe, and submerges it in a particular spot that he knows to be a non-venomous leech breeding ground.<sup>50</sup> It is a seasonal endeavor, as leeches are easier to capture during the rainy season from June through November.<sup>51</sup> Sometimes the human collector may prick his lower legs to entice the leeches to bite and collect them directly from his own body. In an article in *The Hindu* in 2008, Ramakrishnan Padmanabhan, a seventy-five-year-old leech catcher in Kerala who has been practicing for thirty years, describes pricking his legs to catch the leeches. He reports catching up to ten per day and has about fifteen “disciples” who have learned from him, manual laborers earning supplemental income through leech catching. Padmanabhan laments that sometimes vans arrive carrying ten to fifteen men who might catch up to five hundred leeches at once. “‘Catching leeches is a noble service to someone in distress,’ says Padmanabhan. But many, including his sons, are reluctant to follow his path. ‘They mock me for doing this business. For them this is a

<sup>46</sup> Small leeches are useful for ophthalmic treatments, but those are not practiced at this clinic.

<sup>47</sup> In Germany, a leech can be obtained with a prescription at a pharmacy. I learned of this from a colleague whose mother self-treated a hematoma with leeches in this way.

<sup>48</sup> “European Medicinal Leech: *Hirudo Medicinalis*.” IUCN Red List of Threatened Species. <http://www.iucnredlist.org/details/10190/0>. Accessed March 10, 2018.

<sup>49</sup> Mandal, “Annelida: Hirudinea (Leeches),” 187; Shivakumar, “Chennai Lost a Third of Wetlands in a Decade.”

<sup>50</sup> I am not aware of women working as leech catchers in the area where I conducted my research.

<sup>51</sup> Kerala usually experiences two monsoons. The larger southwest monsoon (*iḍavapāthi*), usually from late May through August, and a second shorter northeast monsoon (*thulāvarṣam*) arriving sometime in October.

dirty job.”<sup>52</sup> According to the clinic owner, the job of leech-catching is “inferior” because of its financial and bodily risk, involving uncertain success and submersion in “swampy” areas that may contain sewage run-off. It was not uncommon for people I spoke with about my research to scrunch up their faces in a visceral show of disgust when I mentioned *aṭṭakal* (leeches, Mal.), while simultaneously nodding in understanding at the vital labors of the leech.<sup>53</sup>

By standing, bleeding, in the water, Padmanabhan appeals to the array of stimuli needed to entice a leech to bite and adhere. Studies on the feeding behavior of *Hirudo* leeches reveal that during prey detection, biting, and feeding, leeches rely differentially on their faculties of touch (mechanico-sensory cilia), sight (visual sensilla/simple eyes that sense light and dark), and chemoreceptors (taste or smell?).<sup>54</sup> Throughout the process of feeding, touch plays a central role, one that increases as leeches age. Due to a preference for more nourishing mammalian blood as they age, *Hirudo medicinalis* leeches increasingly respond to mechanical wave stimulus over detection of waves by visual sensilla.<sup>55</sup> The image of a “grid” offered by Harley et al. gestures towards an image of the intersensory world of a leech. As they explain, “although individual visual sensilla on the body are non-image forming, the whole grid receives enough information to, in principle, determine the location of a water disturbance.”<sup>56</sup> Additionally, both thermal and chemical stimuli are necessary to induce a leech to feed, and lip cilia are a site of chemoreception.<sup>57</sup> Leeches have taste, or a “trained nose,” so to speak, and after leeches bite they only ingest blood if “appropriate chemical stimuli appear.”<sup>58</sup>

### ***Transport Jar***

After a successful gathering of leeches by the collector, they are purchased by an intermediary and then sold to the clinic. The clinic owner drives his car to deliver cash in exchange for leeches housed in a plastic jar of water with holes poked through the lid. They have come either from a freshwater lake or pond in central Kerala, or from a large waterway nearby this southern Kerala metropolis. Leeches from the central region are cheaper than local leeches, averaging less than Rs. 100 per leech.<sup>59</sup> Occasionally their supplier in central Kerala obtains leeches from southern Karnataka at the cheaper rate of Rs. 50 per leech. The clinic physicians also purchase leeches from a local collector at the higher price of approximately Rs. 150–200 per leech.<sup>60</sup> Dr. Lokesh explains that locally, leeches are harvested indiscriminately with a leather bag, echoing Padmanabhan’s lamentations about mass-harvesting in his local waters, but that in central Kerala, the collector harvests them gradually so as not to disrupt the breeding. Usually, leeches are purchased by the clinic as a group for Rs. 5,000 or 10,000, with a seasonally variable price

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<sup>52</sup> Kurian, “A Leech-Gatherer’s Tale.”

<sup>53</sup> Commonly used terms for leeches in Malayalam are *aṭṭa* (pl. *aṭṭakal*), which also means “worm,” and the more specific *kulayaṭṭa* and *aṭṭahasyam*.

<sup>54</sup> Dickenson, “Feeding Behaviour of the Medicinal Leech.”

<sup>55</sup> Each of the twenty-one mid-body segments of a leech contains seven pairs of extremely sensitive mechanosensory cilia, each accompanied by a visual sensillum or a “simple pit eye,” plus five eyes on the head. Harley et al., “Developmentally Regulated Multisensory Integration for Prey Localization in the Medicinal Leech,” 3801.

<sup>56</sup> Harley et al., “Developmentally Regulated Multisensory Integration,” 2011.

<sup>57</sup> Elliot, “Chemosensory Stimuli in Feeding Behavior of the Leech *Hirudo Medicinalis*.”

<sup>58</sup> Elliot, 399.

<sup>59</sup> At the time, Rs. 100 equaled approximately \$1.50 USD.

<sup>60</sup> This is similar to the price given in the article cited in footnote 52.

that is higher during the dry season.

The leeches are brought to their new home, an outpatient Āyurvedic clinic located near a highway underpass in a bustling southern Kerala town. When the highway was built ten years ago, surrounding wetlands were purchased by the government and paved over. To attract business for the treatment of lower leg venous ulcers by *jalaukāvacāraṇa* (leech therapy), the owner runs advertisements in evening editions of local papers.<sup>61</sup> He offers services to a constituency that he describes as the “common man” and “lower-level working classes,” such as auto drivers and manual laborers, in the local editions of *Flash* and *Big News*, as well as in the mainstream newspaper, *Indian Express*. He also runs ads in a glossy, color-printed, health magazine called *Kalākaumudī*, targeted to middle and lower-class audiences.<sup>62</sup> Although physicians at the clinic treat a wide range of conditions, their outreach emphasizes bloodletting treatments, and during my study period, they were featured in a local TV channel special on *raktamokṣa* (bloodletting), including both *sirāvyadhana* (venesection) and *jalaukāvacāraṇa*. Many patients come to the clinic via word-of-mouth when they see the lower leg ulcer treatment working on another patient.



Figure 6: Hanging in, hanging out

When I began visiting the clinic, the staff consisted of three physicians, one part-time pharmacist, and a clinic assistant. Practically speaking, the clinic was run by two BAMS physicians, both women. The elder, Dr. Jyoti, was in her late thirties, Hindu, from a middle-class, upper-caste background, married and with two school-aged children. Her schedule varied, but most of the time she worked five days per week.<sup>63</sup> Dr. Daisha was in her twenties, Muslim, and grew up with few financial resources in a nearby village. During the course of my research, she married a man from a middle-class family who works in the locally burgeoning technology industry. During my study, Dr. Daisha was at the clinic six days per week from morning until evening. These two physicians had somewhat different relationships with the leeches in the clinic. Dr. Jyoti, for example, often called the leeches “naughty” and emphasized that if they weren’t “activated” they would be lazy.<sup>64</sup> Dr. Daisha explained her early experience with leeches, as part of her relationship with her mentor, the clinic proprietor, Dr. Lokesh.

There was once a time I couldn’t manage leeches like anything so if Sir gave me three leeches and one tray, and he would ask me to look after them—each time one will go. I’ll go after it and another will go to his side. And he used to make fun of me. Like—if

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<sup>61</sup> At the clinic, they also use leech therapy to treat other conditions, such as piles (hemorrhoids), arthritis, diabetic ulcers, post-surgical facial scars, keloids, and psoriasis.

<sup>62</sup> Some important axes of identity in Kerala society are religion, caste, economic class, gender, education, and marital status.

<sup>63</sup> All research at the clinic was undertaken with the informed consent of physicians and patients. In accordance with my IRB protocol I use pseudonyms to respect the privacy of clinic staff and patients.

<sup>64</sup> The activation process, swishing a leech in water with turmeric, is part of the procedure prescribed in the *Suśrutasaṃhitā*, and is performed as part of the procedure at the clinic only when deemed necessary.

someone wants to make me engaged, [he would say], “Just give three leeches to her. She will be very much engaged.”

Here, unruly leeches are at the center of a teasing but instructional relationship between Dr. Daisha and Dr. Lokesh. Usually, Dr. Jyoti and Dr. Daisha were responsible for seeing specific patients, but they also often worked together. All of the *jalaukāvacaṛaṇa* sessions I observed were performed by these two physicians, both of whom had been trained in the practice by Dr. Lokesh and a colleague of his, who now lives in another region of Kerala.

The founder and owner of the outpatient Āyurvedic clinic, Dr. Lokesh, was an MD (Ayurveda) in his thirties from a middle-class, upper-caste Hindu background. He had completed both his undergraduate and graduate training in nearby states and was the first member of his family to earn a medical degree. While all of the physicians spoke Malayalam and English fluently, Dr. Lokesh was also proficient in spoken Tamil and Hindi, and he understood Telugu and Kannada. He was married, and unconventionally for Kerala, was responsible for the cooking in his home, as his wife also worked full-time. He had been recently employed in a teaching position so was not present at the leech therapy sessions that I attended. Rather, Dr. Lokesh financed and oversaw the running of the clinic, purchased and prepared most of the raw materials for medicine making, paid the staff, and participated in giving consultations and therapies in the early mornings, on some evenings, and on Sundays. He also saw patients at other local hospitals and clinics. Dr. Lokesh’s specialized training in leech therapy came from a practitioner in central Kerala who was well-known for his Āyurvedic surgical techniques.<sup>65</sup>



Figure 7: Medicinal plants drying

Framed by a signboard listing the physicians’ names and hours of operation, the clinic is separated from the road by a metal gate. A short driveway leads through a small garden with an array of medicinal and ornamental plants, including *Aloe vera*, *neem*, *Adhatoda vasica*, *guḍucī*, *arka*, and *nirguṇḍi*.<sup>66</sup> Often, a coconut fiber mat or plastic tub with processed plant parts is drying in the sun, for example, in Figure 7 (clockwise from upper left), *guḍucī*, a *guggulu cūrṇa* (powder)

<sup>65</sup> The staff also included a part-time pharmacist and a clinic helper. Towards the end of my study period the clinic helper was laid off due to interpersonal conflict and the pharmacist got married and moved out of state to be with her husband’s family. The staff used the combined skills of the owner—whose varied training and professional experience included working in the pharmacy department of a large local Āyurvedic hospital—and the pharmacist, who had a Bachelor of Ayurvedic Pharmacy, for making the majority of medicines at the clinic. They also made additional income by producing an Āyurvedic *sharbath* product, a sweet herbal syrup for preparing a thirst-quenching drink popular in the scorching summers.

During the writing of this chapter Dr. Lokesh’s mentor passed away.

<sup>66</sup> Here, I used the multiple registers of the clinic, specifying the names as introduced to me in a mixture of Latin, Sanskrit, and Malayalam: *kattarvāzha* (Mal.)/ *kumārī* (Skt.)/ *Aloe vera* (Lat.); *vēppū* (Mal.)/ *neem* (Skt.)/ *Azadirachta indica* (Lat.); *āṭaloṭakam* (Mal.)/ *vasaka* (Skt.)/ *Adhatoda vasica* (Lat.); *chittamṛtū* (Mal.)/ *guḍucī* (Skt.)/ *Tinospora cordifolia* (Lat.); *erukkū* (Mal.)/ *arka* (Skt.)/ *Calotropis gigantea* (Lat.); *karinocchi* (Mal.)/ *nirguṇḍi* (Skt.)/ *Vitex nigundo* (Lat.). There are many Sanskrit terms identified for each of these plants. These correspondences between plant names in Sanskrit and the contemporary Malayalam and Latin names follow conventional practice in Kerala.

preparation, *bala*, an herbal mix with *cuukkū* (dry ginger, Mal.), and another tray of the *guggulu* preparation. The covered outdoor waiting area is furnished with wooden benches where patients might browse “the Communist paper,” *Deshābhimāni*, or “the Congress paper,” *Malayalam Manorama*, in a comfortable corner.<sup>67</sup> Or they might sit and eat a post-treatment lunch of rice and curries wrapped in banana leaves. Up two steps to the right, there is a consulting office with a wooden desk equipped with a blood pressure cuff and stethoscope. Lining the far wall are a desktop computer and printer and a glass-covered bookshelf stocked with an array of texts in Malayalam, Sanskrit, and English, both classic and contemporary Āyurvedic and “modern” textbooks.

Returning to the main entryway, two steps lead to the front room of the clinic housing the pharmacy. On the wall, over a sign with the clinic logo, hangs a picture of Dhanvantari, physician of the gods, associated with the lineage of Suśruta, the attributed author of the classical surgical treatise the *Suśrutasaṃhitā*. Dhanvantari was the final jewel arising from the mythic Churning of the Ocean of Milk by the *devas* and *asuras* to retrieve *amṛta*, the nectar of immortality.<sup>68</sup> In the *Suśrutasaṃhitā Sūtrasthāna* 1.21, Suśruta’s teacher Devodāsa, the king of Kāshī, describes himself as “*dhanvantarir ādidevo jarārujāmṛtyuharo ‘marāṇām,*” “Dhanvantari the first god, vanquisher of old age, sickness, and death of the gods.”<sup>69</sup> The figure on the clinic wall, portrayed as an incarnation of Viṣṇu, is garlanded with flowers and emits an ethereal aura of light. Dhanvantari’s four arms are partly extended. In his rear left hand he holds a conch, and in the front left hand, a jar of nectar (*amṛtakalaśa*) retrieved from the churning of the ocean of milk. In his rear right hand he holds a discus, and between his right forefinger and thumb, Dhanvantari grasps a leech. The leech is portrayed as a small brown stick, still, and upright, a tool in the physician’s fingers.<sup>70</sup>

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<sup>67</sup> This characterization of the two papers, made by the clinic owner, is in reference to the two main political parties in Kerala—the Communist, Left Democratic Front (LDF), and Congress, United Democratic Front (UDF)—which have alternated political dominance each four-year election cycle since the inception of the state of Kerala in 1956. This is in marked contrast to the dominance of the Hindutva right-wing Bharatiya Janata Party (BJP) in much of the rest of India.

<sup>68</sup> G. V. Dhavane finds that the earliest attestations of Dhanvantari are found in the epics, specifically in the Churning of the Ocean of Milk episode in the *Mahābhārata* and in the Northwest and Bengali recensions of the *Vālmiki Rāmāyaṇa*. Dhavane, “A Critical Study of Dhanvantari.”

<sup>69</sup> As noted in the introduction, Dominik Wujastyk’s study of an early fragmentary manuscript of the treatise complicates the relationship of Dhanvantari to the early *Suśrutasaṃhitā*. See the section on the *Suśrutasaṃhitā* in the Introduction of this dissertation.

<sup>70</sup> Differently configured sets of four items can be found in contemporary images of Dhanvantari. Sometimes he is portrayed as holding a conch, pot, sprigs of *tulsi*, and a text in his right front hand. In other representations, the leech is in the left front hand and the pot is in his right. I have not found any images where he is holding both a leech and a text as they may represent and emphasize different aspects of practice, and perhaps the relationship between theory and praxis discussed in the *Suśrutasaṃhitā* that we examined in Chapter Two. In Gouriswar Bhattacharya’s study of early Dhanvantari representations, he identifies four sculptures dating from the first millennium. Three of them represent the figure holding a jar of *amṛta* in one hand and none of them portray the figure holding a leech. However, he analyzes the figure as invariably associated with medicine, for example the unique image in the Russek Collection shows the figure holding a “staff with peacock feathers” which he notes emblematic of a “wandering religious mendicant.” Bhattacharya, “A Unique Stone Sculpture of Dhanvantari from the Russek Collection, Switzerland,” 6.



On the right side of the entry room are shelves stocked with medicines made on the premises including powders (Skt. *cūrṇa*, Mal. *cūrṇam*, *pōṭi*), decoctions (Skt. *kaṣāya*, Mal. *kaṣāyam*), pills or granules (Skt. *vaṭṭaka*, Mal. *guḷika* or *taripōṭi*), alcohol-preparations (Skt. *ariṣṭa*, Mal. *ariṣṭam*), elongated pills (Skt. *varī*, Mal. *tiri*), medicated oils (Skt. *taila*, Mal. *tailam*, coconut-based, *keram*, *eṇṇam*) and ghee preparations (Skt. *ghṛta*, Mal. *ghṛtam*). These formulations are prepared following recipes in a range of texts, and labeled with the clinic's colorful logo and a full listing of ingredients used and texts cited.<sup>71</sup> The staff often make custom medicines for patients' special conditions and deliberately do not carry any patented or proprietary products—those that do not adhere directly to recipes from Āyurvedic treatises—marketed by large companies.<sup>72</sup> At stake in this choice are claims of authenticity.<sup>73</sup> On the left is a glass cabinet



Figure 8: Dry medicines

and countertop that serves as the locus for business transactions, the dispensation of prescriptions and medical advice, and chatting. This counter contains medicated ghees (*ghṛta*) and medicated jaggery preparations (*gula*).<sup>74</sup> Behind the counter are stools for the physicians to sit, newspapers for wrapping, prescription pads and pens, and a book for recording treatment records and transactions. Against the wall is another row of shelves with medicines and a small plastic box with office supplies and money tucked into the bottom.

An open doorframe leads to the main portion of the clinic, a cement building with a wooden roof. The central room is partitioned by an area with shelves stocked with raw materials including plant parts, resins, and some minerals. To the right is the treatment room with an attached bathroom where *jalaukāvacaṛaṇa* takes place, and another room where medicines are packaged. On the wall between the two doorways hangs a dry erase board with a printed sign titled “Daily Menu,” listing the medicines being prepared, and two printed lists with signs: “Medicines on Stock,” and “Medicines on Process.” To the back of the building on the right is a small room furnished with a bed for the clinic assistant who resides at the clinic. To the left are two rooms with large metal machines for making medicine: centrifuge, granulator, pulverizer, micro-fine pulverizer, grinder, pill-rolling machine, chopper, tableting machine, and a thermal fluid-filled jacketed vessel.<sup>75</sup>

<sup>71</sup> Government of India, Ministry of Health and Welfare (Department of Health), *The Drugs and Cosmetic Act and Rules, The Drugs and Cosmetics Act, 1940*, xvii 1.

<sup>72</sup> Interestingly, the clinic owner holds a patent for a new genre of Āyurvedic medicine in Kerala. Currently it is not being mass produced and I do not specify the type of product here to protect the physician's anonymity.

<sup>73</sup> See Chapter Three of this dissertation for a discussion of the politics and history of claims to *śuddha* Āyurveda.

<sup>74</sup> Ghee is clarified butter, prepared by simmering butter until any excess moisture is gone and any protein solids have separated from the refined oil. Jaggery is dried unrefined cane (or date) sugar.

<sup>75</sup> These items were purchased several years earlier, when the owner applied for and was awarded a

In the rear of the clinic is an open area flanked with coconut palms that serves as a space for cooking medicines using a portable gas stove and propane tank, or for special oil preparations over an open fire in an *uruḷi* (bell metal vessel, Mal.). The preparation of medicines at the clinic ebbs and flows according to demand as well as the supply of raw materials—which, like the



Figure 9: Preparing Medicated Oil in an Uruli (“Bell-Metal” Vessel)

supply of leeches, is seasonal. Often, medicine is made under informal contract for other clinics, and special medicines have been made for research at a local Āyurvedic college. This area also houses an iron vessel where all of the biomedical waste—including the gloves, newspaper, dressing cloths etc. used in leech therapies—is burnt.<sup>76</sup>

### *Clinic Tank*

When leeches are gathered in the clinic en masse, they are fished out of the jar and sorted by one of the physicians who tries to pull out any venomous leeches in the batch. Sometimes they are not pre-sorted, but the physicians keep their eyes out for venomous leeches, identified as “hairy or hard,” when they begin to select leeches for treatment. On rare occasion, I was told, the leech will radically change in appearance while sucking and engorging during treatment. In this case, they are immediately removed although probably non-venomous. Describing the collection, obtainment and sorting of leeches Dr. Daisha explained,

They dip a leather bag in the water and they (leeches) stick to the outside. The people who are giving them to us are not professionals, they don’t know which are good or bad. We can tell here when we touch. If they are slimy and soft they are unpoisonous, if they are hairy or hard they are poisonous. Out of a hundred, two to five are poisonous. We crush and bury them.... The poisonous leeches don’t cause problems to other leeches. When they first come they are clustered and clumped in one area—a ball of leeches—difficult-ly we have to wash and clean. Washing, we separate into different containers. If one leech dies it impacts the others—it stagnates the water.

Dr. Daisha represents the process of collection in a manner resembling the *Suśrutasaṃhitā* passage we will examine, in which a piece of moist skin (*ardracarman*) is used, rather than the method attested in the news article cited above. From her perspective, collectors are not “professionals” as they cannot tell the “unpoisonous” leeches from the “poisonous” leeches by touch.<sup>77</sup> Rather she understands this leech-distinguishing touch as the domain of the physician, or

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Kerala State Entrepreneur Development Mission no-interest loan financed by the Kerala Financial Corporation.

<sup>76</sup> In the monsoon season, the tiles covering the wooden roof leak towards the back of the building and have to be monitored and patched. The clinic is maintained by the physicians along with the clinic assistant, who was laid off before the study ended. A cleaning lady came to clean the clinic’s premises two times per week, but during the cash shortage produced by demonetization, she was laid off. She would occasionally come to the clinic asking for cleaning work. Subsequently the owner hired a group of three Bengalis, inexpensive migrant laborers, to come and clean the clinic weekly for Rs. 2,000.

<sup>77</sup> According to English usage, leeches, in the sense referred to here, are venomous, so I use that term

from the perspective of intra-action, as constituting the physician. This moment of touch also constitutes the leech as suitable for clinic labor, as a “medicinal leech.”

When the initial sorting is finished, leeches are placed into a glass tank filled with water and an oxygenation pump in the owner’s home, adjacent to the clinic. After I became known at the clinic as an observer of leeches—and after a turtle that had been kept in a different fish tank died—leeches were moved to the deceased turtle’s tank. This new habitat was lined at the bottom with rocks and colorful glass pebbles, and more closely resembled the idealized habitat for leech aquaculture described in the *Suśrutasaṃhitā*. Although I am not certain that my presence influenced the upgrade, I did have a number of lively conversations with the clinic’s owner about the merits of using plastic vs. glass jars for the leeches (plastic bags were outlawed in the municipality during the study period) and about leech harvesting and ecology. While living in the glass tank, leeches are fed weekly with turtle food. They adhere to the side of the tank, tangling with each other, resting, or moving, until they are assigned to a patient.

### *Treatment Room*

In the center of the treatment room is a special table made of *kañjiram* wood, used for Āyurvedic treatments. This is where the patient will rest during *jalaukāvacaṛaṇa*. The table has a drainage system so that during treatments, liquids, such as oil or medicated rice pudding, can drain from



Figure 10: Treatment room

the side. For leech therapy the physicians cover it with a thick green cotton sheet and pillow. At the foot of the table, they place a piece of rubber to catch bodily fluids. It is washed, sterilized by boiling, and then reused. Newspaper is used in abundance for wiping the table and floor, as well as for extra padding if the patient has sensitive heels. Immediately to the left, upon entering, is the “leech library,” shelves containing jars of conscripted leeches labeled with patient names. In the corner is a bathroom with both a sitting and squatting toilet and a shower. There is a sink immediately outside of the bathroom

where leeches are rinsed, and next to this, a cupboard and a long table equipped with supplies for easy grasping. The table contains medicated oils, sterile gauze, scissors, forceps, individually plastic wrapped sterile needles, cotton, and latex gloves, all needed for leech therapy, along with other items, including a gas stove and metal hammer with one sharp and one blunt edge for *agnikarman* (cauterization). In the corner sits a *śirodhāra* device, a large brass pot suspended from a wooden piece designed to extend over a patient’s head as oil is steadily poured on their

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throughout the chapter. A venomous animal is capable of injecting venom, whereas a poisonous animal is poisonous when ingested. Some leeches may also be poisonous but that is not addressed here. In the classical treatises, they are referred to as *saviṣa* and *nirviṣa* (with venom/poison without venom/poison) in relation to the effect of their bite. Although the most common meaning of *viṣa* is poison, in the context of leeches, there is an understanding that the *viṣa* is delivered through the bite of the leech. Therefore, the translation of venomous and non-venomous is appropriate.

forehead. There is a standing fan oriented towards the treatment table, two brown plastic chairs, and two shuttered grated windows.

Patients who find their way to this treatment room often arrive at the clinic seeking relief from chronic and acute lower leg ulcer treatment. Hailing from the city and nearby towns and villages, some as distant as four hours away, they arrive by car, auto rickshaw, bus, and motor bike. They are Muslim, Christian, and Hindu, men and women of varying ages, ranging between thirty and eighty, from a variety of caste affiliations, and generally, of the middle or lower economic classes. Most ulcer patients speak Malayalam and sometimes a small amount of English. Lower leg venous ulcers more commonly afflict people who stand long hours while working, carrying heavy loads, or have experienced post-natal varicosity. Although the clinic sees an even distribution of men and women treated for this condition, I was more often invited to attend the leechings of male patients. These patients included a barber, retired policeman, a tea stall operator, a brick maker, and a headload worker (someone who carries loads on their head). The three female patients whose sessions I attended were all homemakers of varying ages, religions, and social and economic classes, ranging from thirty to sixty.

Many but not all of the patients have first sought out other forms of treatment, including antibiotics, sclerotherapy—a procedure using injections to seal a vein redirecting blood flow—or skin grafts. Sometimes patients come to the clinic for treatment because it is more affordable than alternatives. One treatment including leeching and medicines can range from Rs. 500–1,500, depending on the number of leeches used and the medicines sold. The treatment regime was often catered to the contingencies—time, capacity, money—of the patient and their lifestyle. Dr. Lokesh explained his adaptive approach to this contingency: “What money they have, we give that much medicine. Quantity goes down, not quality.” If the patient has less money the physicians will prescribe the same medicines but for a shorter period of time.

People learn about the clinic and its treatment for lower leg ulcers via the newspaper and magazine advertisements mentioned above, and most importantly, through word of mouth. The success of the patient whose case I followed for the longest time, a retired police officer highlighted in the first vignette below, led several of his neighbors with similar ailments to the clinic. The physicians attribute a good part of his steady healing to the support of his wife, who was very strict about preparing the proper foods, administering medications, bandaging, and caring for him so that he could “take rest” adequately. The capacity to “take rest” was a significant social or economic challenge for some patients, for example the headload worker. He had allotted a certain amount of time to take off for his healing, but hoped to return to work soon, where the weight-bearing activity would most likely cause a recurrence of the ulcers. Clinical practice, then, hinges on community, family, and self-care, and of course, the leech, who ultimately becomes part of the human body’s vascular apparatus in the course of leech therapy.

Although the retired police officer’s wife accompanied him, men often arrive at the clinic alone. In contrast, Malayali women seeking medical care almost always go to appointments accompanied by a relative or friend, and due to family obligations and gender norms compliance with ongoing treatment could be a challenge. For example, a mother of two working as an administrator did not have her husband’s support and expressed guilt at channeling the family’s resources towards her ulcer treatment. After a few sessions of leech therapy, she would occasionally scramble to reach the clinic, buying only the smallest bottle (100ml) of *jathyadi keram* (Mal.), medicated coconut oil with turmeric, which she would use insufficiently on her wound. The gendered management of family resources curtails the vascular possibilities of treatment for those women who lack family commitment towards their therapy.

Sometimes patients end up on the treatment table early, when a small ulceration has appeared, or even before that, when venous insufficiency causes buildup of blood and itching in the affected limb(s). But often by the time they arrive, their ulcers have advanced in stage, penetrating beyond the skin, increasing in number and size. Lower leg venous ulcers are challenging to treat due to increased venous pressure in the lower legs during the daily activities of standing and walking. Patients experience pain, sometimes extreme, loss of sensation, and a feeling of oozing and itching in and around the ulcer. The clinic owner shared his experience of the psychological aspect of the condition:

Patients always have a fear of the look of the ulcer. It is a botheration. It looks so weird—psychologically people get upset. They doubt what it is. They are not ready to accept that it is a varicose ulcer. Psychologically they are very upset, because it is not healing. You too saw that (addressing me). They have a loss of hope in this case ... and the bystanders, the relatives, and people who see the ulcer will say, “What is this, why is it not healing?” And that is also disturbing for the patient. Something happens in the skin and the worry is more, because in the skin it is expressed. That expression causes fear and anxiety and if it is not healing they will become very sad. Internal diseases are usually not expressed.... In the case of the liver, people just see the biomedical information in the lab reports and they don’t feel scared until the doctor explains the severity. Here they themselves see the severity.... I have to tell them it will heal in 14 days. Then they feel a hope. It is really giving a hope for the people. Usually, I say that to the ulcer patients, it will take one week, one month, or it will take a very long time. One year is maximum. If they are properly caring for more time, then relapsing rate is very little.

This discussion of the social and emotional disturbances caused by manifestation of diseases on the skin points to the fact that both classically and popularly, skin diseases are often regarded as *karmaja*, arisen from karma, in the sense of action taken in this or a previous life.

Leeches, although initially causing some patients additional fear, become a source of relief and sometimes amusement for the patient. An extreme example of the psychological duress described by Dr. Lokesh, was a patient who came to the clinic with a deep and wide ulcer, extending from her heel two thirds of the way up her inner leg, and fully infested with maggots. Although performing a sterile debriding of the wound and thereby facilitating leech therapy, the presence of maggots may cause tremendous upset for the patient. In addition to bearing acute and long-lasting physical pain, this patient, who was quite wealthy, experienced bi-polar disorder exacerbated by her condition, and was unable to fully pursue the course of treatment.

Terms commonly used to describe the patients’ conditions at the clinic are lower leg venous ulcer, *murivũ* (Mal. wound), *vraṇa* (Skt. ulcer), and *unāṅgata vraṇa* (Mal.)/*duṣṭa vraṇa* (Skt.) (chronic ulcer). The etiology, as explained to me by Dr. Lokesh, is congestion of venous vessels due to enlargement. Because of decreased vascularity, the skin in that area becomes unhealthy and weakens. The area can burst, or a small trauma such as scratching can cause a wound that becomes hard to heal. He also explained the etiology in terms of the sensation of itching, which is usually related to an increase in *kapha*: “Patients often experience the premonitory symptom of itching, then they scratch, once they scratch it will become an ulcer, and once it is an ulcer it won’t get healed.” Dr. Lokesh seamlessly conceives of the etiologies of “vascular congestion” and “increased *kapha*” as they slip into, inform, and merge with one

another in the course of practice.<sup>78</sup>

*Vraṇa* is a general term for wound in Sanskrit, and here it is used to specify an ulcer. This type of ulcer is *duṣṭa*, literally meaning “spoiled,” indicating chronicity. Once a wound starts to involve the *doṣas*, then it becomes *duṣṭa*, and difficult to cure.<sup>79</sup> If the bed of the ulcer becomes a pit, then it is called a *nāḍi vraṇa* (channel ulcer), and it is even more difficult to cure. A good deal of space is dedicated in the *Suśrutasaṃhitā* to the conditions of *vraṇa* and the *Sūtrasthāna* chapters 21 and 22 are dedicated to the topic. Chapter 22 describes the different types of wounds and their exudates, including reference to a range of sensations perceptible to the patient at the site of the wound. These wounds can be located in a variety of tissues; Often in the clinic, patients come in with ulcers that extend into muscle. While the *Carakasamhitā* begins its discussion of *cikitsā* (therapeutics) with *jvara*, fever, the *Suśrutasaṃhitā*, as a surgical treatise with a special interest in wounds, begins the *Cikitsāsthāna* (“Section on Therapeutics”) with a lengthy chapter on the treatment of *vraṇa*.<sup>80</sup>

### **Leech Library**

Once an ulcer patient has arrived at the clinic for the first time and is situated on the treatment table, a gloved hand scoops a leech up from the glass tank. Prying their rear sucker from the side of the tank often requires considerable effort and digital deftness. The leech is soft and moves when handled. They squirm as if trying to escape the grasp of a predator, not knowing they are about to be fed on human blood. Leeches scooped up for a particular patient are housed in a small glass or plastic bottle with their blood-sucking companions on the shelves of the leech library. Each leech jar is capped by a plastic lid with a tiny prick-hole to allow in air, and is

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<sup>78</sup> This echoes Annemarie Mol’s study of the conceptual simplifications and complexities that take place in patient treatments for arterial disease, “This relation of in/dependence that makes disease/s multiple is also a form of complexity, the complexity of being more than one and less than many.” Mol, “Cutting Surgeons, Walking Patients,” 247.

<sup>79</sup> Wounds are located in eight sites: skin (*tvac*), flesh (*māmsa*), blood vessels (*sirā*), ligaments (*snāyu*), bones (*asthi*), joints (*saṃdhi*), digestive tract (*koṣṭha*), and vital spots (*marman*). If they are situated in tissue layers lower than the skin being torn open themselves (*svayam avadīryāmāṇa*), or if they have an irregular shape (*vikṛtākṛti*), they are hard to treat (*SS Sū* 22.3–5). *SS Sū* 22.7 provides a description of *duṣṭavraṇa* according to the *doṣic* predominance.

<sup>80</sup> Two types of *vraṇa*, having different origins and treatments, are described in *SS Ci* 1, *śārīra* and *āgantū*. The former is caused by the *doṣas* alone or in combination and the latter, by external causes.

The treatment for a patient with lower leg venous insufficiency that has not yet ulcerated is *sirāvyadhana* (venesection), letting blood from a vein. For this procedure, a metal sterile needle attached to a plastic tub is inserted into the vein and blood runs from the patient into a metal surgical dish. Once an ulcer has developed a more complicated treatment takes place described below.

For a discussion of the prevalence and etiologies for tropical leg ulcers see Mani, “Leg Ulcers—a Problem in India?”

checked out by only one patient.

Leeches borrowed from the leech library will live and, possibly, die in their jar when not engaged in feeding, purging, or being washed. Now they enter a new, usually, faster cycle, then that of harvest-from-pond and wait-in-tank. Slow clinic-time, tangling in the tank with other leeches, becomes fast clinic-time, in periodic contact with humans and their blood. The leeches become medicinal leeches in their entry into the vascular practice of the clinic. It is in this role that we see their complex agentive intra-actions as their inclinations determine the course of treatment, impact the patients' experiences, and provide information to the physicians. Leeches' touch is translated through the vision and inference of physicians, as well as the experience of patients, into information about the pathology, treatment, and patient, both before and after the treatment.



Figure 11: Leech library

The first vignette presented here, featuring the retired police officer whose successful treatment attracted others to the clinic, follows a relatively predictable trajectory. Conceived in terms of vascularity, the moments of intra-active branching in a patient's treatment branch into other large channels, rather than into a complex web of thin channels with multiplication of possible paths. If the leeches do not bite where expected, they still bite, suck and are predictably purged. Some leeches die, before and after. Of particular interest in this vignette is a moment when the leech bites in a place that is acceptable to the physicians but causes them surprise, as it is not where the most vascularity appears visible to them.

### *Vignette #1: Cooperation and Casualties*

The father and son arrive at the clinic in mid-morning by motorbike. It's teatime, so, immediately, they head to the corner teashop. The staff also takes a break to enjoy tea with *vadas* (fried savory doughnuts). The patients return and the father is settled on the treatment table. This is both patients' second visit. The father, B., is a retired police officer in his mid-seventies, and the son, Z., in his early forties. Before coming to the clinic, the father had received antibiotic treatment for his infected ulcers from a conventional biomedical physician, but he did not see improvement.

Dr. Jyoti began to unwrap B.'s gauze bandage. When she reached the layer of *jātyādi kēram*-infused<sup>81</sup> cotton, she paused to drip saline solution onto the area to avoid ripping newly formed layers of healing tissue. There were four lesions on his left foot and lower leg and three on the right, ranging in size and shape from one inch and round to five inches at the longest points and irregular. The lesion on his outer right ankle was the smallest, but deep, and the most painful because of proximity to the joint. The ulcers on his inner right ankle were pink and not as deep as the ulcers on his right leg.

The son, Z., had two small ulcers that had developed in the past month. While Dr.

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<sup>81</sup> *jātyādi kēram* (Mal.) is a medicated coconut oil preparation featuring jasmine and turmeric, essential to the clinic's practice of *jalaukāvacaṛaṇa*. Its role in the practice will be explained in more detail below.

Jyoti was un-bandaging the father, Dr. Daisha retrieved his two leeches from the leech library and they both bit, almost immediately.

Dr. Jyoti retrieved the father's five leeches. A jar of unassigned leeches rested on the large cupboard. After draining the water from the glass jar into the sink, Dr. Jyoti inserted her gloved hand into the inverted container and tried to grab a leech. The leeches were either tucked into the corners or adhering to the sides of the jar with their rear sucker, and squirming. After extracting the first leech with effort, Dr. Jyoti grasped them with a piece of gauze and tried to apply them to a reddish patch on the patient's largest ulcer.

The leech maneuvered their mouth to a paler spot and arced their neck upward as they bit. At 12:32 pm, they began sucking. A slinking pulsation was visible in their neck. Dr. Jyoti gestured to Dr. Daisha at the unbitten red area expressing surprise that the leech had not adhered there.

At the same time, Dr. Daisha was wrangling a leech trying to entice them to bite on B.'s inner right foot. The leech took hold and began drinking, adhering their rear sucker to the leg for stability. After three more minutes, three leeches had adhered to B.'s left foot.

The leech on B.'s right foot had released and was crawling away. Dr. Daisha deftly retrieved them and moved them to the other ankle. After five minutes, five leeches were sucking blood from B.'s left leg.

At around 1 pm, B. stated that pain was coming from the area of the ulcer on his outer right ankle, so I went to get Dr. Daisha, who was behind the counter reading a newspaper. When I mentioned the situation to her, she said that it was to be expected due to the location of the wound and went back to reading. Dr. Jyoti overheard and entered the room. After determining that B. would consent to purchasing an additional leech, she applied a leech to the painful spot with the intention of relieving his pain.

The leeches gradually grew in size, broadening, bodies extended and pulled towards the table by the weight of their blood meal. As they enlarged, they shifted and adjusted the location of their lower sucker to accommodate the weight of ingested blood. Dr. Jyoti covered the leeches with gauze and left again.

The first leech released from the B.'s large ulcer at 1:23 pm. They were placed in a metal bed pan and sprinkled with turmeric. Blood began to drip from the leech's mouth as their engorged body curled and writhed in a swirl of turmeric and blood. Dr. Jyoti took her gloved finger and rolled the turgid leech over in the turmeric. They dripped more blood, and she picked up their distended body, dipping their head in turmeric, encouraging them to purge. The leech arched and flexed, purging bright red blood. Sometimes Dr. Jyoti stroked them from tail to head, but more often, she gave them a slight squeeze. Eventually, she put the leech back into the tray of purged blood and turmeric. The leech continued to move back and forth in the tray through a matrix of blood and turmeric.

Where the leech had released, blood was running in a thin bright-red stream from the patient's foot onto the plastic mat lining the table. Dr. Jyoti put a piece of gauze over the area to absorb the blood. After two minutes, she took the leech to the sink, rinsed the slime, turmeric, and blood off of their body and placed them back into the glass jar.

Dr. Jyoti returned to the patient with a needle, lightly removed the staunching gauze, and began pricking around the margins of the ulcer where the leech had released. She lightly pricked for about two minutes eliciting tiny drops of blood. A single thin stream of blood was still coming from the leech's bite. The patient's outer right ankle continued to hurt, so the physician sprinkled turmeric on that leech's head and they released.





efficacy hinges upon the patient’s proper diet, care, and behavior at home. For example, in order for the accompanying oral medicines, for example the decoction (*kaṣāya*) to be effective, the patient should comply with a *pathyam*, a restrictive diet, specifically, one that excludes meat, spicy, oily, and fermented foods (such as *idli* and *dosa*), smoking, coffee, and alcohol.<sup>83</sup> Since part of the etiology of the condition is accumulation of venous pressure, patients are supposed to “take rest,” keeping the injured area elevated and compression bandaged. Treatment makes demands on the support of other humans. The father featured in the first vignette, with the help of his wife, is an example of a compliant and successful patient. With his wife’s support, he strictly adhered to dietary and activity restrictions, even though he was a non-vegetarian Christian who customarily ate fish. The only time that his healing briefly reversed and he developed a small new ulcer was during the Christmas season, when he took several long walks to attend church and was not able to maintain *pathyam*. His vignette, above, illustrated a relatively smooth process of leeching. Before we turn to the next two vignettes, which render

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a similar recipe for *jātyādi gṛtām* in *Sahasrayogam* (*Ghṛtayogaṅgal* (Ghee-preparations), #43). The *Cikitsāmañjari* is a treatise ordered according to treatment of particular ailments (e.g., wounds, urinary disorders, etc.) whereas the *Sahasrayogam* is a collection of recipes organized according to preparation type (e.g., ghee preparations, sesame oil preparations). See *Cikitsāmañjari*, 574; *Sahasrayogam*, *Sujanapriya Commentary*.

The exact date and authorship of the *Cikitsāmañjari* is unknown. P. K. Yasser Arafath notes that “Chikitsa Manjari is also known as Valiya Manjari, is still quite popular among the Ayurvedic practitioners of the region. Though the author is still in question, many scholars believe a Namboothiri from Perinchellor to be the author of the same. He is believed to have lived in the seventeenth century.” Arafath, “History of Medicine and Hygiene in Medieval Kerala: 14–16 Centuries,” 140.

To my knowledge, the *Cikitsāmañjari* has not been translated into English. The edition of the text I referred to is a 1990 compilation of the reprint of the first editions published in two volumes in 1934 and 1935. The editor of the 1990 edition, D. Sreeman Namboothiri, has added a Malayalam commentary to the treatise, explaining, “Since most verses in that (treatise) are in Mañipravālam style and also since the Sanskrit verses in *Aṣṭāṅgahr̥daya*, etc. are quoted verbatim, it is difficult for those not having good knowledge to understand it.” “*atīle mikka padyaṅgaḷum mañipravālaśāilīyilullaṭatū ākayalum aṣṭāṅgahr̥dayattīleyum muttuṁ saṁskṛta padyaṅgaḷ palayitattum atēpaṭi uddharicciṭṭullaṭatinālum nallapāṇḍityam illāttavarakkū atū manassilākkāṅ prayāsamaññū.*” (Mal.) *Cikitsāmañjari*, 14.

As the editor of the 1934 volume, K. G. Gōpālapiḷḷa explains of the text’s history, “This book, having this much importance, remained laying unpublished, up to this time; for that reason, we can only respond with surprise. One cannot see a way clearly to know who is the author of this book or when he lived. There is justification to guess that the author of *Cikitsāmañjarī* should be either anyone among the leaders of the Aṣṭavaidyas or any other person in their lineage of students. We know that included in the tradition of students of Aṣṭavaidyas many among the great Āyurveda practitioners well-known in Kerala, having understood many parts of this book through spoken-word (*uktarītyā*) and having respectfully accepted this (book’s) system of treatment even today they continue to put it into practice.” “*itrayum prādhānyamuḷḷa ī grantham ituvare prakāśitamākāte śēṣiccu kiḍakkuvāñ iḍayāyatil atbhutappeḍukayē nirvāhamuḷḷū. ī granthattinte karttāvū āraṇanennō addēhaṁ eppōḷ jiviccirunu ennō vyaktamāyi ariyuvāñ valikāṇunnilla aṣṭavaidyapramāṇikaḷil ārenkilumō avariṭe śiṣyaparambarayilpeṭṭa ētenkilum orāḷō āyirikkaṇaṁ Cikitsāmañjariyūte karttavenūhikkuvāñ nyāym unṭū. aṣṭavaidyāśiṣyaparambarayil ulppeṭṭa keralattile suprasiddhanmārāya āyurvēdavaidyavaryanmārīl palarum ī granthattile pala bhāgaṅṅaḷum uktaṛītyā grahicciṭṭullaṭāyūm itile cikitsāsambadāyañṅaḷe avar innuṁ ādarapūrvam āṅgīkariccu prāyogikam ākkippōrunnatāyūm ariyunuṅṭū.*” (Mal.) Namboothiri, *Cikitsāmañjarī*, 5–6.

<sup>83</sup> In spoken Malayalam, *pathyam* is used as a noun. In the Sanskrit of the classical Āyurvedic treatises, it is generally used as an adjective, for example *pathyam āhāram* (wholesome/suitable food).

palpable the complex vascularities that unfold through interactions of touch between leeches (sometimes with other leeches), patient, and physicians, I sketch out treatment trajectory fundamentals and possibilities.

The patient arrives at the clinic and is taken into the treatment room. Their gauze bandage is cut and unwrapped. Using saline solution dripped from a bottle, the cotton of the bandage is gingerly removed from the wound. The wound is rinsed and swabbed. The wound is examined and discussed with the patient in terms of their healing, as well as their experience of pain and/or itching. The physician retrieves the patient's jar of leeches from the library and fishes one out. If one does not release from the side of the jar then the physician selects another. Sometimes the leech is rinsed at the sink before being brought to the patient.



Figure 12: Leeches biting

The leech, wrapped in gauze, is held in the physician's hand and brought to the site of the ulcer where a complex wrangling takes place that will be illustrated in the vignettes below. Leeches are directed to bite on the wound. The physicians have specific places they want the leeches to bite, the leeches will sometimes bite in those places, but very often in other places (as in Vignette #1). If they won't bite at all, they may be "activated" by being swished in a surgical tray with some turmeric powder mixed in water, but more likely the physician will begin to do some *pracchāna*, pricking, to elicit small drops of blood. Whereas large drops of blood supposedly cause leech aversion, a small amount of blood may entice the leech to bite. If the leech still will not bite, they may be put back into their jar. Sometimes they are replaced by another leech and sometimes not. When they bite with their three-toothed jaws oriented like the spokes of a peace sign, their head assumes a shape resembling a horse's hoof (Figure 12).<sup>84</sup> The leech's sucking is apparent by a pulsing in their neck.

Often the leeches are covered by moist cotton gauze and left to suck. They may suck, or release, or move to another location and bite there. The leeches engorge with blood and change shape and size. Sometimes they stay attached but suck slowly or do not suck at all. During the treatment if the patient experiences excess pain or itching the physician may remove or move leeches. Towards the beginning of every treatment the physician will ask the patient, "*Vēdanonṭō?*" (Is there pain?) "*Chōriccil unṭō?*" (Is there itching?), to find out if they are having an allergic reaction or if there is something unusual about the leech.

In addition to being anticoagulant, leeches' saliva has analgesic properties.<sup>85</sup> Often the leech bite will reduce the patient's discomfort and also prepare them for *pracchāna* (pricking), which can be practiced simultaneously or subsequent to leeching, or not at all. In general, patients were lying down on their backs when the leeches were applied, so they would often not see the leeches up-close, unless they sat up during the process to take a closer look. Some

<sup>84</sup> Also see *SS Sū* 13.20.

<sup>85</sup> A number of compounds have been isolated in leech saliva, including hirudin (anticoagulant), bdellin (anti-inflammatory protease inhibitor), apyrase (platelet anti-aggregate factor), eglin (anti-inflammatory and antioxidant), hyaluronidase (diffusion factor and antibiotic), and more. However, a substance distinctly identified as having analgesic properties has not been identified. Leech saliva acts as an analgesic in the clinic, and this reduction of pain has been documented in a number of clinical studies. See Koeppen et al., "Medicinal Leech Therapy in Pain Syndromes."

patients responded to the leeches at first as novel, or with fear, as when a patient called his relatives to exclaim that he was having leech therapy. But for many, the interaction with the leeches was primarily through touch, feeding—mouth to leg—and involved healing and relief



Figure 13: *pracchāna* with *jalaūkāvācāraṇa*

rather than amusement or concern. From Dr. Lokesh's perspective, "Since it is adults, usually, they don't have a problem. But people who come for the first time express a fear that there will be a pain.... But people with chronic ulcers—they do some leeching, their pain will calm down. That is the immediate feel after the leech therapy. Pain relief."

As a leech's stomach fills with blood, the leech gets larger and heavier, their body changing shape and size. Usually, they anchor their rear sucker to the patient's leg for stability. Leeches can triple or quadruple in size during a feeding. Sometimes a leech will change places, leaving blood dripping from the miniscule tri-spokes of their initial bite, or

they won't bite at all and will be consigned back to their jar. Slow sucking can also be interpreted as a result of "black blood," also called, "toxic blood," which is thicker and coagulates.<sup>86</sup> It is rendered visible during the subsequent purging of blood from a leech's stomach, described below. According to the *Suśrutasamhitā*, and in clinical practice, if a patient begins to feel burning or itching later in the course of treatment, then it is understood that the leech has shifted from sucking impure/spoiled blood (*duṣṭa rakta*) to sucking pure/unspoiled blood (*aduṣṭa rakta*). Attendant to this, non-venomous leeches are regarded as having special capacity (*prabhāva*) to suck spoiled blood from the patient before extracting unspoiled blood. This capacity is likened to the way that a *haṃsa* (goose or swan) is believed to drink only milk from a mixture of milk and water.

Although leeches are considered to imbibe vitiated blood first, when a patient experiences pain and itching only after some time, it is understood that a leech has started sucking healthy blood.<sup>87</sup> This association of the special ability of leeches, in relation to blood, with *haṃsas*, in relation to milk, is first found in the work of Vāgbhaṭa (*AH Sū* 26.42, *AS Sū* 35.4), and may be related to the ecologically homologous association of both with lotuses. It is notable that both leeches and *haṃsas* are understood to live in lotus filled lakes and eat lotus root.<sup>88</sup>

<sup>86</sup> Although leeches are understood to preferentially suck impure blood from the site of the wound, sometimes blood that appeared black when purged from the leech was called "toxic."

<sup>87</sup> We will return to this at length in the next section on the *Suśrutasamhitā*.

<sup>88</sup> As Charles Lanman explains, "the aquatic bird *haṃsa* lives on lakes that abound in lotuses, and subsists in a measure upon the underground stalk of the lotus plant... whose joint... when crushed, exudes a juice designated by the word *kṣīra* which is also a common name for milk."

Lanman, "The Milk-Drinking *Haṃsas* of Sanskrit Poetry," 151. While this may explain the attribution of a special ability of a *haṃsa* to drink only milk out of a mixture of milk and water, if we apply the same logic, it does not explain the ability of leeches to first suck impure blood from a human. Here, vitiated blood is the opposite of milk, as the former is fiery (*āgneya*) and the latter, watery (*saumya*). This binary,

Where and when a leech chooses, or can be enticed, to bite, is also prognostically relevant. The presence of excess slough on an ulcer is not appealing to a leech and indicates an abundance of *kapha*—here manifesting as cool and moist waste-tissue—in the wound. Conversely, they may not want to bite when there is too much dryness, caused by *vāta*. Due to their cooling and watery nature leeches are optimal for *pitta* predominant conditions, having excess-heat and redness, but they can be used in all cases. When a leech is sucking, the speed of blood flow can provide information to the physician about the vascularity of the area, having implications for prognosis. A small sucking pulse indicating low vascularity can mean that the wound will heal more slowly. As Dr. Lokesh explained in response to my asking directly about leeches and prognostics, in the follow-up to my clinic visits,

The fitness of the blood is assessed for sure by the leech before it sucks, the chronicity of the condition and the area. If there is more slough and all of those things—is determinate of how much sucking effort it should put. We can see from his body—the speed of the suction can be felt usually in its neck portion that indicates the vascular richness of the area being sucked.

Dr. Lokesh, a male physician, experiences the hermaphroditic leech alternately as it and he. *It* is the object of the physician’s observation and *he* is a simultaneous subject (possessing a sucking body) and object observed. This multi-faceted intra-action with leeches as diagnosis and prognosis during the course of treatment is an expansion on the classical treatises, and indicates that they function as sensory extensions for physicians.

After some time, usually between seventy and one hundred minutes, a leech will release. A leech might release when full, or for another indiscernible reason, stomach empty or half-full.



Figure 14: Purging a leech

Immediately they are on the move. The physicians, who are usually in another room, will be summoned by the patient or another person in the treatment room (possibly me). The leech will immediately start wriggling away from the patient towards the table edge. The leech is caught by the physician and placed into a metal surgical tray. Turmeric is poured from a commercial spice pouch onto the head of the leech. It starts to writhe and vomit, swirling the turmeric and blood in the tray. Dr. Daisha explained, “If there is weekly leeching then you get a smaller amount of blood, if it’s black blood there is clotting, if a patient’s blood is healthy then we can take up to one *añjali*, which is 300 ml.”<sup>89</sup> They do not weigh the blood in the clinic.

The physician picks up a leech and sprinkles them with an apparently very irritating bright orange powder—turmeric. They cringe into a turgid ball and begin purging blood, squirming in an increasingly complex swirl of red, or

which predates Āyurvedic literature, is central in the *SS* where blood (*rakta*) is regarded, in places, as a fourth *doṣa*. See Wujastyk, “Agni and Soma: A Universal Classification.” Leeches, with their cooling and moist saliva, remove and pacify fiery vitiated blood.

<sup>89</sup> One *añjali*, which is the volume of two hands cupped together, should vary according to the size of the patient and be measured according to their hands.

reddish-black, and orange. If they do not release when the physician desires, then turmeric will be sprinkled on their head, inducing release. During the course of purging, the physician will scoop up the leech and repeatedly dip their head in turmeric, eventually stroking them from tail to head. Adequate purging means life or death for the leech. When leeches are purged, the color of the blood is noted by the physician, blackish blood is noted as impure and bright red blood as pure. Post-procedure death of the leech can indicate inadequate vomiting, or toxicity of the patient's blood. The death of leeches, in some cases, was explained to me by Dr. Daisha as an indication of possible "*ariṣṭa lakṣaṇa*" (sign of impending death) for the patient,

If there is *ariṣṭa lakṣaṇa*, in the case of hepatitis, (for example) then they die. By observing the leech after therapy, we can see. In one case here, his leeches died. The patient had tested negative for Hepatitis C, but he had it. There was a patient with a dog bite, he had taken the rabies vaccine, and the leeches all died.

After purging, leeches are taken to the sink and rinsed of blood and turmeric, as well as a viscous clear leech-saliva laced with blood. At this point, if the first leech waited a long time to release, a physician may sprinkle turmeric on to the heads of the other leeches so that they release. If the first leech releases earlier, then they wait for the others to release. After allowing the leeches to purge themselves for some time, the physician eventually purges them by stroking them from tail to head. The remaining leeches are put back into the jar and rinsed at the sink. At the sink, they are handled with care, but they are slippery, and sometimes are washed down the drain. If the physicians think of it, a piece of cotton is placed into the drain to prevent losing a leech. The leeches are placed back into their jar with fresh tap water, which is returned to shelf of the leech library. The leech or leeches are returned to the jar. New tap water is added and the jar is put back onto the shelf until the patient's next session.



Figure 15: Rinsing and returning to the leech library

### ***Back to the Lotus Pond***

For leeches, regardless of the “toxicity” of blood, it is a one-way trip from the tank to the leech library.<sup>90</sup> The image of borrowing and circulation—of leeches as things—fostered by the naming as “library” softens the fact that the two ways leeches leave the clinic are by escaping when washed accidentally down the drain during the post purging rinse, and by being flushed down the toilet if discovered dead. Dr. Daisha explained, “When the leeches die we flush them down the toilet.... Some leeches drink too much blood and die.” Things that are flushed down the toilet return to the clinic’s septic system, perhaps escaping into the bodies of fresh water nearby. The

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<sup>90</sup> In this clinic, and in Kerala, the convention is that one leech is used for only one patient. This convention is informed by the possibility of transmitting blood-borne illnesses via leech bites from one patient to another. When leeches are caught by adhering to a human leech-catcher’s legs, then this raises other problems of transmission. At a clinic I visited in Maharashtra, they reuse leeches that have been cleaned with turmeric-water on other patients after seven days.

mixed resonance of leeches as things to be flushed and selves drinking to excess comes together. In the case of the leech's insufficient purging, they will suffer from what the *Suśrutasamhitā* calls *indramada*, which inevitably results in death. In either case, in the cycle of leech-space invading clinic-time, they return to water.

### Allies

During this interval of leech purging, rinsing, and bottling, the patient may be bleeding lightly at the bite sites. *Pracchāna* may or may not take place. Blood running from the patient is wiped and cotton gauze saturated with *jātyādi kēram* is placed on the wound and bandaged. The patient gets off the table and is given bandaging and medicine instructions at the front counter. Often the patient will eat the lunch that they brought, outside, before leaving, to restore their blood sugar. Ideally, *jalaukāvacāraṇa* takes place before ten o'clock in the morning and not during the *pitta*-predominant period of the day, from ten o'clock in the morning to two o'clock in the afternoon.<sup>91</sup> But at the clinic, due to the constraints of patients' travel time and schedules they do often take place during midday. Dr. Lokesh stated, "We make sure if the *pitta* is too high then we never do it in the *pitta* time. If it is an emergency, we will do it even in the *pitta* time. That is the real advantage of leeching, you can do it at any time in an emergency.



Figure 16: Deceased leeches in toilet

If the patient is having immense pain, we put leeches, it will reduce the pain."

As with leeches, contact with *jātyādi kēram* plays an indispensable role in the treatment. *Jātyādi kēram* is a medicated oil prepared with eleven herbs, the name *jātyādi* translating from Malayalam to: "jasmine etc." The recipe includes jasmine leaves harvested at the clinic and *maññjal* (turmeric Mal.) in a fresh coconut oil (*kēram*) base.<sup>92</sup> This cleansing (*śodhana*) oil is poured onto the gauze placed on the ulcer and bandaged after leeching and/or pricking have taken place.



Figure 17: Bandaging with *jātyādi kēram*

<sup>91</sup> The *Suśrutasamhitā* specifies that bloodletting is to take place when it is neither too cold nor too hot (*SS Sū* 14. 31) which would exclude bloodletting in the heat of midday.

<sup>92</sup> As explained in footnote 82, in this chapter, the recipe used at the clinic is adapted from a medicated ghee recipe found in the Malayalam medical text, *Cikitsāmañjari*, with ingredients added from the *Sahasrayogam*. According to the editor D. Sreeman Namboothiri's commentary to the *Cikitsāmañjari*, "it is very good for the purification and drying of all ulcers." *ellā praṇaḷum śuddhiyākānum uṇaṇṇānum uttamamānnū*. (Mal.). Namboothiri, *Cikitsāmañjari*, 574.

The oil is bright green in the bottle, but once it is put onto the bandage it appears yellow due to the predominance of turmeric. It absorbs into the *vraṇa* through “*sūkṣma vraṇas*,” the subtle or small wounds created by the leeches three-jawed bite and by any *pracchāna* that has taken place. “Once we do the leech, a small wound is created by the bite, and it can absorb.” Patients also purchase the oil at the clinic and apply it daily. In the summer season, when there is a shortage of fresh green jasmine leaves, the oil can be in short supply as the clinic cannot obtain adequate material to make it. Dr. Lokesh noted the limitations of working with fresh plants (this is more common in Kerala), “When these kind of herbals are prepared it will have six to eight (or more) ingredients. If one is not available we can’t make it.” The price of coconut oil has been rising, reaching Rs. 180 per liter from a price of Rs. 100 per liter one year ago at the same time. This is also challenging the clinic’s supply of oil, as their clientele would generally not be able to absorb this price increase.<sup>93</sup>

In concert with *jalaūkāvācāraṇa*, there are usually three or four categories of medicines given to each patient, and if it is the first visit, then two additional medicines are recommended:



Figure 18: Mixing *kaṣāyams*

1) On a patient’s first visit the clinicians recommend that they obtain doxycycline (an antibiotic) and Allegra (an anti-histamine), in case they live far away and are not able to return to the clinic quickly if there is an adverse reaction or infection. These cases are rare but occasionally occur. The patient can have an allergic reaction to the leech bite or incur an *Aeromonas* infection. Leeches, like humans, are host to a rich microbiome. In fact, they require the assistance of a range of microorganisms, including *Aeromonas hydrophila* (a gram-negative anaerobic bacteria), to digest blood. While leeches and *Aeromonas* live in a symbiotic relationship, this organism can cause infection in a human host.<sup>94</sup> Since in Kerala, Āyurvedic physicians are not legally able to prescribe biomedical pharmaceuticals, the preventative doxycycline regime is offered as recommendation and not a prescription; 2) The patient is prescribed a *kaṣāyam* made of a mix of between two and five formulations prepared at the clinic depending on

the severity and chronicity of the condition, the availability of the medicines, the patient’s economic situation, and their “comfort of coming and going—if they are not able to come for a long period we have to give them stronger combos.” The two core *kaṣāyams* are *tiktakaṣāyam* and *gudūchyādi kaṣāyam*; 3) *Jātyādi kēram* is prescribed to be used with daily bandaging; 4) *Gokṣurapunarnavādi cūrṇam* is prescribed, a diuretic powder boiled in water and drunk throughout the day; and 5) The patient often receives some kind of nutritional supplementation to address the tissue depletion that may be underlying the ulcer. This is in the form of a calcium supplement (often *sāṅkhabhasma*), a calcium and iron combination, or *amla* preparations (gooseberry).<sup>95</sup>

<sup>93</sup> The clinic buys coconut oil from a local small-scale processor and trader of coconuts.

<sup>94</sup> Rastogi and Chaudhari, “Authors’ Response: Ayurvedic Methods of Adversity Control Following Leech Application,” 261 and Senthilkumaran et al., “Leech Therapy and Infection Control,” 260.

<sup>95</sup> A *bhasma* is a calcinated product produced by heating in a closed environment. The *sāṅkhabhasma*, made of conch shells, is purchased from a company in north India. For several years they replaced it with *kukkudāṇḍatvagbhasma*, made in the clinic from eggshells collected from local nighttime *dosa* makers.



## *Vascular Practice*

Now we turn to two vignettes of this vascular practice that proceeded less smoothly than the first example. However, each vascular intra-action branches to another; even if blockages change the course of flow.

### *Vignette #2: “I don’t think there is any chance of it sucking blood today”*

Dr. Jyoti notified me via text that there would be a leeching, but Dr. Daisha was present when I arrived at the clinic. The patient, E., in his mid-50s, was seated on the treatment table, showing off photos of his barbershop in a town about an hour away. This would be his eighth leech therapy session, but the first I had attended. Prior to coming to this clinic, he had sought sclerotherapy treatment at a biomedical clinic. At the first visit, he had received twenty-five injections from the foot to thigh using a laser to seal and redirect veins. He continued with the treatment for five months but it was not effective, so he came to this clinic and had been undergoing treatment for two months.

E. had two ulcers on his right foot, crusted over with dark tissue, that appeared to be almost healed. Dr. Daisha removed his compression bandaging and washed his inner ankle with saline solution. Grasping a piece of gauze with forceps, she wiped the area.

Two leeches were brought to the table in a glass jar by Dr. Daisha. One came out of the jar easily, the other did not. After Dr. Daisha vigorously shook the jar, the second leech fell squirming onto the table and lengthened their body, crawling away. Scooping up the leeches and placing them in a metal surgical tray, she took them to the sink. She filled the tray with tap water and swished the leeches around. Then, holding the leeches gently in the corner of the tray, Dr. Daisha drained the water.

On the way back to E., the leeches and Dr. Daisha paused at the equipment table. She selected a piece of gauze, using it to grasp one of the leeches. During the process, the other leech smoothly scooped out of the tray and landed on the floor. Holding the first leech with gauze, she picked up the second leech from the floor, and carried it back to the sink to rinse them both again. “Usually while washing them if we are just a bit ... uh, slow to catch it, [it] will go through in the sink.”

After resting the leech-filled tray on the table, she tried to pry one off of the tray’s edge. “When we want, it won’t come out, it will just stick to somewhere.” As she said this, Dr. Daisha managed to fish a leech from the tray. This leech was typical in appearance, brown, flanked by a pinkish-orange stripe with flecks on each side of its body. At 10:56 am, Dr. Daisha began trying to entice this leech to bite on the relatively well healed ulcer.

The other leech, meanwhile, squirmed back and forth in the tray, exploring its margins with their body. The leech moved from one end to the other, and then around the perimeter. They paused in places to probe their head, which would assume a pointy shape, up the side of the tray, and then continue their circular journey.

After eight minutes of maneuvering, Dr. Daisha pricked the area gently a few times with a needle, eliciting a tiny drop of blood. The leech still would not bite. Dr. Daisha clicked her tongue on her teeth in disapproval, put the leech back into the tray, and scooped up the other leech.

E.’s phone went off with a processional ringtone. He sat up and took the call, explaining that he was at the hospital and would call back later. Dr. Daisha probed the area

of the wound with her finger, and the patient sucked in air between his teeth, indicating with his finger where he felt pain.

Dr. Daisha picked up a leech and then put it down. She went to retrieve a thick piece of cotton to replace the thin gauze she had been using to hold the leech. In her left hand, she picked up the leech with the cotton, and then took the plastic-handled needle in her right hand. She pricked the area and the patient moaned in pain. Due to the thickness of the healed tissue, it was difficult to elicit blood with a light prick, but she managed. However, Dr. Daisha was unsatisfied with the round red drop of blood that oozed from the prick, because it was too big. “When it’s more blood, they won’t be interested.... The good prick we utilize for *pracchāna*.”

She took the leech in her right hand. The leech probed with their face and then turned away. At 11:04 am, Dr. Daisha clicked her tongue in annoyance, and snatched the leech away, “If it’s an open wound, no problem. It will directly go and....,” she sighed. Transferring the leech to her left hand again, she picked up the needle and pricked gently but firmly in one spot near the healing margin.

The patient moaned, sitting up and rubbing the area above the wound with his hand, “*Ayyo!*” I asked, “But he still needs the leech to finish the healing?” Dr. Daisha explained, “Yes that area is infected.” The patient moaned, the physician pricked, the leech would not bite. Dr. Daisha asked the patient, “Sugar *uṅṭō?*” (Is there sugar? i.e. Are you diabetic?). “*Illa.*” (No.) “Uric acid *uṅṭō?*” (Is there uric acid?)<sup>96</sup> “*Illa.*” After making two small holes with her pricking she lamented, “there are two wounds there but still...” Every time she tried to direct the leech’s small mouth towards the wound, they would avert their head to the left or right, or curl down into the cotton.

After more pricking, and switching leeches again, at 11:07 am, the second leech bit. Heavy cotton gauze adhered to their back end, so gravity tugged them almost to the table. They were not able to use their back sucker to stabilize on E.’s leg. Nevertheless, the leech sucked, a light pulsing in their neck.

At 11:12 am, Dr. Jyoti decided to try again with the other leech. “I’ll put it in turmeric once more to activate it.” She swished the leech around in a tray with some turmeric in water. Walking around to the far side of the table she resumed trying to entice the leech to bite.

The cotton had released from the other leech and their back sucker was now stabilized on the patient’s leg. Their mid-section was drooping with the weight of blood filling their abdomen, and the leech assumed a U-shape.

At 11:16 am, she stopped trying to entice the leech in her hand to bite a particular area. “I don’t think there is any chance of it sucking blood today,” she said, but, keeping her hand lightly in contact with the leech, she let them probe the area freely. The leech kept trying to crawl off. “Look. It’s staying away from his body.... I want it to catch there itself,” she pointed to a particular spot on the healing margin.

The leech continued probing and trying to squirm away. Resigned, Dr. Daisha placed the leech back in its jar with some water and returned to E. to apply *pracchāna*. Apparently, although this was his eighth treatment, he had never undergone pricking before. Dr. Daisha explained, “*because there is only one leech today so they need pracchāna for enough blood-letting.*” The patient was now experiencing itching near the wound, and the pricking relieved his sensation. When Dr. Daisha pricked in one particular

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<sup>96</sup> The presence of uric acid in urine can indicate gout.

area, the patient moaned and gestured, “*Illa, illa,*” (No, no), so she stopped. After some time, the leech still biting had stopped sucking completely. “We can see this from the lack of pulsation in its head.” A 11:56 am Dr. Daisha removed the leech with turmeric and performed additional *pracchāna*.

***Vignette 3: “It’s a trick... It’s just simply playing.”***

The second patient today, P., arrived on foot from the nearby bus stand. He is in his 40s and carries bricks for living in a village about an hour away. This is his first visit to the clinic, and he was inspired to come after seeing the ulcers that his neighbor, B., suffered from, healing so well. This patient had undergone four surgeries for varicose vein removal in the area, in 1997, 2001, 2015, and 2016. He had been treating the current large and infected ulcers with Metrogen (metronidazole), an antibiotic that can be crushed into a powder and spread into the wound.

P.’s lower left leg was unwrapped to reveal a large, irregular L-shaped wound on his inner left ankle and leg. For several centimeters around the whitish-yellow ulcer, the tissue was pink in color, bordered by light brown skin with large dark splotches indicating compromised circulation in the area. Dr. Jyoti went to the adjacent building to select some leeches for P.’s treatment and came back with a jar holding four leeches. She picked a leech out of the jar with a piece of gauze in her gloved hand and held their mouth near the edge of the L closest to P.’s foot. Rather quickly, at 11:47, the first leech took hold. She removed the gauze from their body and they stretched downward towards the side of the man’s leg opposite the ulcer.

A few seconds later, the leech began to probe down the ulcer in the direction of the table. For a moment, the leech assumed a horseshoe posture and retracted their body, appearing thick. Then they began probing again. Dr. Jyoti brought a leech to apply to the opposite end of the L. That leech attached and a small sucking pulse was visible in their neck. The first leech continued to probe with their head assuming a pointy shape, and back sucker still attached to the upper edge of the L.

When the leech seemed to take hold, Dr. Jyoti gingerly moved their detached lower end to below their head, in alignment with gravity. At 11:49 the leech was on the move again. Dr. Jyoti reached behind her to grab a piece of gauze and picked up the leech trying to get them to bite at the ulcer’s margin. “It’s a trick, it’s just simply playing,” she said calmly. A moment later when the other leech released, she gestured, “It’s also playing.”

The leeches probed the varied textures of P.’s lower leg. Changing tactics, Dr. Jyoti put both leeches back in their jar and fetched a needle. Peeling open the sterile wrapper, she uncapped the needle, taking hold of its blue plastic handle: “I’ll take one needle, give one prick.” Because the wound was filled with yellow-white slough, she pricked, but no blood came: “Since blood is not coming out I will give maximum pricks.” Dr. Jyoti pricked a bit harder until some blood came out, then wiped it away and tried to place a leech. After a moment, at 11:53, they appeared to bite, so she gently oriented the leech’s body towards the outside of the wound and took another leech from the jar.

The second leech bit right away. But after an instant, they released and began crawling up the ulcer towards the first leech. Dr. J scooped up the leech-on-the-go. Holding both the needle and leech in her left hand, she tried to uncap the needle with her right. The cap was stuck, and the leech dove back onto the table. She pricked a spot in the ulcer with her right hand and picked up the leech with her left. The leech immediately dove to the

table in a repeat performance.

She paused pricking for an instant, picked up the leech and resumed pricking, drawing tiny specks of blood. Dr. Jyoti asked the patient, “*Vēdanonṭō?*” (Does it hurt?), he said, “*Illa.*” (No.) She addressed me as she applied the second leech, “One [attached leech] started drinking. It [leech in hand] will go and disturb. At that time, the other will also go away.” At 11:56, the second leech, body extended into a long thin line, bit the ulcer and retracted. Their body shape was one-third of its length a moment ago but four times the width.

Surveying the leeches, Dr. Jyoti rested for a moment, left hand gently resting on P.’s foot and right hand on his lower leg, away from the wound. The leeches were both attached. Then the second leech detached.

Dr. Jyoti repeated her ambidextrous pricking while holding a leech. “We can’t trust that the leech will catch.” She said as she tried to reapply the leech. She let go for an instant when the leech appeared to catch, and immediately they were off. “*Hey!*” she reprimanded the leech trying again. I asked if the first leech was drinking or just sitting there. “I think it’s simply sitting.”

After the leech in her hand declined to bite, she placed them into the metal tray and commented, “It’s a lot of slough isn’t it. It’s more difficult the first time, slime is there.” She took a ball of cotton and swabbed the wound. Then more pricking in a different spot. The leech kept moving their head to the white border of the ulcer and Dr. Jyoti would move them back into the ulcer. She tried another spot with the same mutual behaviors unfolding. She clicked her teeth in disapproval. A few times when the leech seemed to be about to bite, she would release, but then the leech would continue their exploration of the local terrain. Both continued their contradictory efforts.

At one point, the leech probed directly into the head of the sucking leech. “Please, no touching that area too,” Dr. Jyoti addressed the leech and clicked repeatedly. “It is a trick.... It will simply catch somewhere, and we will think, oh, it has caught this side. But when we keep it in another position it will move away. See. This one is not for drinking, it will just disturb the others.” At 12:03, she put the leech back in the patient’s jar. Then she started pricking at the margins of the wound, this time deploying *pracchāna* for bloodletting, rather than leech enticement.

Dr. Daisha arrived, and after donning her gloves, managed to easily get two other leeches to bite in a few minutes as Dr. Jyoti continued the *pracchāna*. By 12:08, three leeches were attached to the—by now—quite bloody, ulcer, one at each end of the L and one at the inner angle. They took a break from leech wrangling and all three of us left the room. Dr. Daisha went into the treatment room to check on P. and came out grinning and amused, “He is calling his relatives and telling that he is doing leech therapy.”

At 12:14 pm, we returned to the room and Dr. Daisha applied a leech to the patient’s outer left ankle and explained to me, “Next time he will have to have vein treatment. This is bloodletting from a plastic tube for the vein upstream of the wound, to relieve pressure there. The real problem is the vein. the wound treatment is peripheral only. He is also needing vein therapy. This was wound therapy” Dr. Daisha left the room.

The first engorged leech released at 1:22 pm and began squirming towards the end of the table. Dr. Jyoti arrived and moved them back from the edge with her fingers. When ready, she placed the leech into a metal surgical tray and began sprinkling turmeric onto the leech, while explaining the purging procedure to the patient. There would be blood. At

1:27, after the first leech had been purged, rinsed, and put back into the tray, Dr. Jyoti applied turmeric to release the other two. Once a leech released, she would place some cotton on the site to staunch the bleeding. The patient, watching the purging, and now engaged in conversation, asked Dr. Jyoti where I live. She mentioned that I live in a flat.

While leech number two was awaiting purging in the metal tray, the other leech scooped their body up and over the edge of the tray and onto the table. I pointed them out and Dr. Jyoti plopped the leech back into the tray, still trying to get the third leech to release with the turmeric and some gentle prodding at its head. Then she put the third leech into the tray.

During the purging, Dr. Jyoti showed me when black blood came out of the leech. “In between—only sometimes—you can get that. Black blood, clotted blood. The fresh blood flows out easily, first. This is denser so it is coming very late.” I observed a lot of red blood, then some black blood, then some red blood. She explained that it is black because there is no circulation and there is infection.

Dr. Jyoti took the leeches to the sink in a metal surgical tray for rinsing. First, she picked up the leeches, one at a time, and rinsed them while holding their bodies over the metal surgical tray. Then, she filled the tray with a centimeter of water and swished them around, holding their bodies in the corner of the tray as she drained the water. This was all usual, but then she picked up each leech for a moment rinsing and holding them directly over the sink. One leech had a sticky saliva residue appearing like a slime mixed with blood that she was trying to rinse away. The leech slipped into the sink and was almost washed down the drain by the running tap, but Dr. Jyoti grabbed them in time. “It sometimes happens. It can help if we block the drain with cotton.” The leeches were safely returned to their jar and placed back into the leech library.

At 1:48, when Dr. Jyoti returned to lift the gauze off of P.’s wound, blood still trickled from the site. After the treatment, P. said that he felt some pain and Dr. Jyoti attributed it to increased circulation in the area. She instructed that if blood soaks through the bandage, then he should change it at 5 pm, otherwise he should change it in the morning.

### ***Fluid Bodies, Sticky Selves***

Paying attention to leeches in the entanglement of mutual becoming is required in the intra-action of *jalaukāvacāraṇa*. This move is not posthumanist; rather this multi-species ethnography acknowledges the intra-action of beings in the process of relating to and constituting one another.<sup>97</sup> Practicing leech exceptionalism, let us think with the leech as emblematic of Āyurvedic ecology—the leech whose “life *is* water” is the embodiment of fluidity bounded. In the names *jalauka* and *jalāyukā*, we see an emphasis not on the action of the leech, but its primary property. This wateriness or fluidity, as an attribute or *guṇa*, is captured in the Sanskrit nomenclature. Like Marianne De Laet and Annamarie Mol’s work on the “fluidity” of the Zimbabwe Bush Pump, the leech is changeable and mobile, and importantly, it is both agentive and fluid.<sup>98</sup> Reading this short paragraph from their work, we can almost replace the term Bush Pump with “leech.”

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<sup>97</sup> See Haraway, *When Species Meet*, 19.

<sup>98</sup> Marianne DeLaet and Annemarie Mol famously wrote of their love for the “fluidity” of the Zimbabwe Bush Pump, in relation to process, community, environment, function, and invention. Their concept of “fluid technology” levies a critique on Bruno Latour’s notion of “immutable mobiles,” unchanging

Our new actor, the Bush Pump, is not well-bounded but entangled, in terms of both its performance and its nature, in a variety of worlds. These begin to change more or less dramatically as soon as the Bush Pump stops acting. Yet it is not clear when exactly the Pump stops acting, when it achieves its aims, and at which point it fails and falters. That is what we also mean to capture when we use the term fluid.... Not only can actors be non-rational and non-human; they can also—or so we hope to demonstrate—be fluid without losing their agency.<sup>99</sup>

This statement of ambiguity or fluidity regarding the actions of the Bush Pump, that it is not easy to ascertain when it “stops acting,” “achieves its aims,” or “fails and falters,” also applies to leeches during the course of *jalaukāvacāraṇa*. Although one can tell whether a leech has fallen off of the patient, questions arise: Is it premature? Has enough blood been let? If the leech remains adhered to the patient: Is the leech still sucking? How fast? Are they sucking pure or impure blood?<sup>100</sup> As we have seen, figuring all of this out is a challenge for the physician. However, leeches are not only fluid, they are also sticky. Tom Scott-Smith’s recent work emphasizes stickiness as a quality inhabiting a viscous mid-point between the solidity of immutable mobiles and fluid technologies. “Stickiness, therefore, introduces friction, preventing too much fluidity in rapidly changing circumstances.... Stickiness describes a consistency and the quality of adhering to other things.”<sup>101</sup> My interest here is not in analyzing leeches as technologies, but rather as living beings participating in therapeutic practices in complex ways. However, both fluidity and stickiness provide some traction in the entanglement of leech-human interactions. Leeches are fluid bodies, mutable and changeable, and interacting and negotiating with them necessitates a fluid comportment on the part of the physicians and patients. They are also sticky. Leeches have a feeding practice, instrumentalized by practitioners, of biting—literally of sticking, and then un-sticking. When, how, where, and why they stick and unstick are matters of primary concern to the practitioner.

The entire *vascularity* of Āyurvedic leech therapy is shaped by what Haraway calls “response-abilities.” The ability to respond can only form in the course of “multidirectional relationships, in which always more than one responsive entity is in the process of becoming.”<sup>102</sup> In these reciprocally formative relationships, who is doing the instrumentalizing? Is it only the practitioners, or the patients? Ultimately, the entire leeching session is an extended enticement of leeches to feed. Can we understand leeches as instrumentalizing humans? Haraway points out that “instrumental intra-action itself is not the enemy,” rather it is “intrinsic to bodily webbed mortal earthly being and becoming. Unidirectional relations of use, ruled by practices of calculation and self-sure hierarchy, are quite another matter.”<sup>103</sup> In the process of *jalaukāvacāraṇa* we have seen that an anthropocentric human-leech hierarchy breaks down.

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mobile entities, for example printed maps, books, or money, critical to the exertion of power in a network through translation. See DeLaet and Mol, “The Zimbabwe Bush Pump Mechanics of a Fluid Technology”; Latour, *Science in Action*.

<sup>99</sup> DeLaet and Mol, “The Zimbabwe Bush Pump Mechanics of a Fluid Technology,” 227.

<sup>100</sup> The concepts of “pure” and “impure” blood are central to the Āyurvedic philosophy of bloodletting and will be explained in Chapter Six of this dissertation

<sup>101</sup> Scott-Smith, “Sticky Technologies,” 5.

<sup>102</sup> Haraway, *When Species Meet*, 71.

<sup>103</sup> Haraway, 71..

Leeches largely determine the course of treatment and the information gleaned during treatment. However, they are captive, and like their kin in the clinic, their mortality is at stake.

Leech trouble is not just a clinical matter. Notably, the intra-active wrangling of the clinic is palpable in our reading of the early first millennium surgical text the *Suśrutasamhitā*. The next chapter will examine representations of leech-human intra-actions in the early surgical treatise alongside Ḍalhaṇa's twelfth-century *Nibandhasamgraha* commentary.

## CHAPTER SIX

### Leech Trouble

So, what, or who, is a leech, what do they do and why, and how does one productively engage with a leech? These questions not only vex contemporary clinicians but are the basis for discussions in the classical treatises as well. This chapter builds on our discussion of intra-active agencies in the *vascularity* of *jalaukāvācārāṇa* in order to highlight leech trouble on the pages of the *Suśrutasaṃhitā*. Specifically, this section addresses the ways that leeches as medical actors trouble classical Āyurvedic textual categories and raise questions about their nature as sensory, sentient, selves. First, I examine ways that we can consider leeches in relation to distinct but overlapping Āyurvedic classificatory schemas, as *anuśāstra*, *dravya*, and *ośadhi*. Second, I turn to a passage from Ḍalhaṇa’s *Nibandhasaṃgraha* commentary discussing *Sūtrasthāna* 13.21, where leech trouble incites a discussion of the nature of leeches as sensing beings. Third, through a translation of *Suśrutasaṃhitā Sūtrasthāna* chapter 13 with commentary, I examine the role and mechanisms of action of leeches in *jalaukāvācārāṇa*.

Zimmerman’s literary analysis of the multiplicity of logics in classical Āyurvedic treatises shows that when classification is abstractive—for example, in the conceptual leap of the *doṣas* in Āyurveda from fluids to “pathological factors”—it entails “overdetermination, multiplying adjectives, and points of view.” This process of multiplication may appear linear, but Zimmerman asserts that the underlying “thought is combinative.”<sup>1</sup> Each specific list term also refers to a higher order classificatory scheme with its own set of specifics that should be known, creating many overlapping branching schemas. But what happens when classification moves in the opposite direction, towards the concrete? This case study of non-venomous leeches shows that constellating around the being of a leech is a, likewise, complex, and “combinative” process.

The first detailed description of leech therapy (*jalaukāvācārāṇa*) in the Āyurvedic corpus is found in the thirteenth *adhyāya* (chapter) of the *Suśrutasaṃhitā Sūtrasthāna*. This formative surgical treatise, which we have examined in detail elsewhere in the dissertation, appears to provide the template for how other surviving first-millennium Āyurvedic texts, with the exception of the *Haritasamhitā*, and to some extent, the *Aṣṭāṅgasamgraha*, understand the process of dealing with leeches.<sup>2</sup> In juxtaposing the idealized, ancient, and textual with the actual (multiple), contemporary, and practical, I am not trying to draw a narrative of continuity. Rather, both within and between these frames, I am interested in the *vascularity* of the practice, foregrounding touching a leech and a leech touching. At the clinic where I conducted the majority of my research on leech therapy, when I asked a question about leech therapy, the *Suśrutasaṃhitā* or the *Aṣṭāṅgahr̥daya* (the most commonly used treatise in Kerala), was brought out and offered. This may be, partly, because as a Sanskrit scholar, they knew I had an interest in the classical treatises. But this was also the case because the treatises provided an authoritative and reliable frame for understanding the basis of clinical practice.

Although this chapter focuses on the exposition of leech therapy in the *Suśrutasaṃhitā*, leeches are also mentioned in the *Carakasamhitā*. In *Sūtrasthāna* 11.55, *jalaukas* is included in a listing of surgical processes, or “application of sharp instruments” (*saśtraṇidhāna*), one of the

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<sup>1</sup> Zimmerman, *The Jungle and the Aroma of Meats*, 120–121.

<sup>2</sup> *Haritasamhitā* 4.6.1 presents a typology of leeches listing three venomous and one non-venomous type of leech suitable for bloodletting.



three forms of medicaments (*auśadha*).<sup>3</sup> In *Cikitsāsthāna* chapter 23, on the “treatment of poisons” (*viśacikitsita*) *jalaukas* is mentioned both as a source of animal poison (*jaṅgama viśa*) delivered through fangs (*daṃṣṭrottha*) (*CS Ci* 23.9) and as treatment, specifically, as a method of bloodletting (*raktamokṣaṇa*) to remove poisoned blood from a venomous snake bite (*CS Ci* 23.39 c/d).<sup>4</sup> The effects of leech poison are described, in *CS Ci* 23.155, as itching (*kaṇḍū*), swelling (*śoṭha*), fever (*jvara*), and fainting (*mūrcchā*). Leeches are also mentioned, often along with other bloodletting methods for the treatment of specific conditions, but with no specific details of the procedure given.

### Who or What is a Leech?

The earliest detailed description of leech therapy is found in the *Suśrutasamhitā*, where they are classified as an *anuśāstra* (accessory or substitute sharp instrument). In the first book, the *Sūtrasthāna*—after describing the origin of the teaching, instruction of students, discussion of the treatise’s contents, and its interpretation through a combination of theory and praxis—the fifth *adhyāya* describes the conditions and prearrangements a physician practicing surgery needs to make for practice. It is here that we find the first brief mention of leeches as accessory sharp instruments (*anuśāstra*). After an exposition on seasonal regime (*rtucarya*) in the sixth chapter, the treatise turns to a description of the surgeon’s tools in the seventh chapter. Here, the treatise describes the use of instruments (*yantravidhi*), foremost of which is the surgeon’s hand (*hasta*), including an enumeration of 101 instruments (*yantras*) and twenty-five accessory or substitute instruments (*upayantras*). The eighth chapter lists the twenty sharp instruments (*śāstras*) and the fourteen accessory sharp instruments (*anuśāstras*), which includes leeches (*jalaukas*). We know that *śāstras* are “sharp” instruments based on the description of each according to its function in *Suśrutasamhitā Sūtrasthāna* 8.4:

There should be *maṅḍalāgra* and *karapatra* in the case of cutting and scraping; *vṛddhipatra*, *nakhaśāstra*, *mudrika*, *utpalapatraka*, and *ardhadhāra* in cutting and splitting; *sūcī* (needle), *kuśapatha*, *āñīmukha*, *śārārimukha*, *antarmukha*, and *trikūrcaka* in draining; *kuṭārikā*, *vṛīhimukha*, *ārā*, *vetasapatraka*, and *sūcī* (needle) in piercing; *baḍiśa* and *dantaśaṅku* in removing, *eṣaṇī* in probing and draining,<sup>5</sup> and *sūcī* (needle) in suturing; thus, is explained, in reference to the eight-fold application of the use of sharp instruments.<sup>6</sup>

<sup>3</sup> *śāstrapraṇidhānaṃ punaś chedanabhedanavyadhanadāraṇalekhanotpāṭanapracchanasīvanauśanaḥśārājalaukasaś ceti* || (*CS Sū* 11.55)

The three forms of medicaments are listed in *Carakasamhitā Sūtrasthāna* 11.55 as part of an enumeration of three sets of three given at the end of the *adhyāya*: three paths of disease (*rogamarga*), three types of physician (*bhiṣaj*), and three forms of medicaments (*auśadha*). They are internal cleaning (*antaḥparimārjana*), external cleaning (*bahiḥparimārjana*) and application of sharp instruments (*śāstrapraṇidhāna*), the latter, including, leeches (*jalaukas*).

<sup>4</sup> *pracchanaśṅgajalaukāvyadhanaiḥ srāvyaṃ tato raktam* || (*CS Ci* 23.39 c/d)

Here, leeches are listed as one option for bloodletting, along with pricking, horn, bottle-gourd, and venesection.

<sup>5</sup> According to Ḍalhaṇa’s gloss, *ānulomya* is intended to mean *visrāvaṇa*, draining or letting flow, and not *rjukarāṇa* making/cutting a line. *Suśrutasamhitā*, 38.

<sup>6</sup> *tatra maṅḍalāgrakarapatre syātāṃ chedane lekhanē ca*

Further confirmation of the importance of sharpness as a defining quality of a *śastra* is found in Dalhaṇa’s discussion of this passage. He explains the reason for the tools *baḍiśa* and *eṣaṇī* being listed as both *yantras* and *śastras*, and why this is not a fault (*doṣa*) of the treatise:

One might ask, because of (its) having one meaning, what is the purpose of the mention of *baḍiśa*, in both cases, in the midst of both *yantras* and *śastras*? It is explained: *baḍiśa* mentioned among *yantras* has breadth and length according to usage but among *śastras* [it measures] six finger-lengths, having a sharp needle-tip, so, it is not a fault (*doṣa*) [of the treatise].... One might ask, *eṣaṇī* is mentioned among *yantras* and *śastras*, and their purpose is the same in both cases. Therefore, in reference to both mentions, what is the difference? It is explained: by *eṣaṇī* having mention among *yantras*, the form has a tip like an earthworm (*gaṇḍūpada*) and measure having breadth and length according to usage (*yathāyoga*), again, the measure of *eṣaṇī* among *śastras* is eight finger-lengths, and form having a tip like a sharp-edged barley-leaf, so, it is not a fault.<sup>7</sup>

In both cases, the instrument listed has a sharp tip when it appears in the list of *śastras* and a blunt tip in the list of *yantras*.

In cases when a *śastra* is not available or not suitable for a particular patient, or an additional technique is needed in the course of treatment, then the physician should use an *anuśastra*. Fourteen *anuśastras* are listed in *SS Sū* 8.15 and then briefly explained in subsequent verses: bamboo (*tvaksāra*), quartz (*sphaṭika*), glass (*kāca*), *kuruvinda* (sharpened iron?), leech (*jalaukas*), cautery (*agni*), caustic alkali (*kṣāra*), nails (*nakha*), *gojī*, *śephālikā*, and *śāka* leaves

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*vṛddhipatranakhaśastramudrikotpalapatrakārdhadhārāṇi chedane bhedane ca  
sūcīkuśapathāṇī(ṭā)mukhaśarīmukhāntarmukhantarmukhatrikūrcaḅāṇi visrāvāṇe  
kuṭārikāvṛihimukhārāvetasapatrakāṇi vyadhane sūcī ca baḍiśam dantaśaṅkuścāharāṇa eṣaṇy eṣaṇa  
ānulomye ca sūcyah sīvane ityaṣṭavidhe karmanyupayogaḥ śastrāṇām vyākhyātaḥ || (SS Sū 8.4)*

In Monier-Williams, the terms *karapatra* is spelled *karapattra* “a saw.” Monier-Williams, *Sanskrit-English Dictionary*, 253.

Here, I am not translating the term for each of the surgical instruments, as their shapes and functions are described in detail in the treatise. Replicas and illustrations of what these instruments are imagined to have looked like can be found in *śalya* (surgery) department museums of Āyurveda colleges and universities across India, as well as in numerous books. Nasim Naqvi traces these representations back to three publications in the nineteenth century, one by T. A. Wise in 1845, “which illustrated 24 surgical instruments... all are inventive and hypothetically created after the designs of ubiquitous surgical instruments of the time,” the second, “Ayurveda Vijnana” published in Bengali by Kaviraj Binod Lal Sen, and the third was a paper published in the journal of the Buddhist Text Society of India in 1894. See Naqvi, *A Study of Buddhist Medicine and Surgery in Gandhara*, 129. Also see for example, the Sanskrit edition of the *Sūśrutasaṃhitā* used in this study (pp. 31–34). For a description of surgical instruments currently exhibited in the Taxila museum in present day Rawalpindi, Punjab, Pakistan, in relation to the *SS*, see Naqvi, “Surgical Instruments in the Taxila Museum,” 89–98 and Naqvi, *A Study of Buddhist Medicine and Surgery in Gandhara*.

<sup>7</sup> *nanu ubhayatrāpy ekārthatvāt kimarthaṃ yantraśastrayor madhye baḍiśasya pāṭhaḥ ucyate yantrapāṭhitam baḍiśam yathāyogaparīṇāhadairghyam śastrapaṭhitam tu ṣaḍaṅgulam eva tīkṣṇakaṅṭhakamukham evetyadoṣaḥ | ... nanu eṣaṇī yantraśastrayoḥ paṭhyate prayojanam cobhayatrāpy eṣaṇam eva tasmād ubhayapāṭhe ko viśeṣaḥ ucyate yantrapāṭhitāyā eṣaṇyā ākr̥tir gaṇḍūpadamukhī pramāṇam tu yathāyogaparīṇāhadairgham śastreṣu punar eṣaṇyāḥ pramāṇam aṣṭāṅgulam ākr̥tis tu tīkṣṇakaṅṭhakayavapatramukhī cetyadoṣaḥ || Sūśrutasaṃhitā, 38.*

(*gojīśephālikāsākapatra*), bamboo shoots (*karīra*), hair (*bāla*), and fingers (*aṅgulī*).<sup>8</sup> Assisting in our definition of the term, *Suśrutasaṃhitā Sūtrasthāna* 8.16–18 explains the cases when these types of tools are to be used:

A wise practitioner should use the category of bamboo (*tvaksāra*) etc. in cutting and splitting, for children, those afraid of *śāstras*, and in the absence of *śāstras*. One should use nails in the case of possible extraction, cutting, and splitting. Later, the application of caustic alkali, cautery, and leeches will be explained. If diseases are located in the mouth and in the eyelids, then one should let them flow with the leaves of *gojī*, *śephālikā*, and *śāka*. And, when it is to be probed (*eṣyeṣu*) and *eṣaṇī* is not obtained, hairs and nails are suitable.<sup>9</sup>

Describing the use of accessory or substitute sharp instruments, this passage details how to use tools that either have sharp edges or points, or a sharp action independent of their form. Most of these items, for example bamboo and leaves, have sharp edges and their use is relatively self-explanatory. However, three of the *anuśāstras* receive further explanation in subsequent *adhyāyas*: *agni*, *kṣāra*, and *jalaukas*. Each of these tools is described as part of a larger procedure and with a range of special uses. While *agni* and *kṣāra* themselves are not necessarily sharp, both cautery and caustic alkali have a piercing or cutting action. In the list of *anuśāstras*, leeches stand out as the only living animals. In a list of sharp objects, leeches are—like cautery and alkali—conspicuously soft unless we consider their teeth and the action of their bite. As we have seen, their bite is a somewhat unpredictable instrument, rendering *jalaukas* unique among *anuśāstras*.

Later in the *Sūtrasthāna*, we find a description of the use of caustic alkali (*kṣāra*) (*SS Sū* 11) and cautery (*agnikarman*) (*SS Sū* 12), and *jalaukāvacāraṇa* (*SS Sū* 13). In *adhyāya* 13, leech therapy is described as the gentlest (*paramasukumāra*) of the three gentle methods of bloodletting, along with the horn (*śṛṅga*), and bottle-gourd (*alābu*). Each method has attributes (*guṇas*) suited to treating wounds predominant in a particular Āyurvedic *doṣa*, *vāta*, *pitta*, and *kapha*. For example, in *Suśrutasaṃhitā Sūtrasthāna* 13.6 leeches are described as “having a cool abode,” “sweet,” and “born in water,” and suited for treating the fiery nature of a *pitta* predominant wound. In contemporary practice, however, leech therapy is the most common of the three and it is used to treat a variety of wounds. (See Figures 19 and 20). In distinction from the other methods of bloodletting that are not regarded as gentle, *pracchāna* (pricking) and *sirāvyadhana* (venesection) which rely on the human circulatory system in conjunction with gravity, *śṛṅga*, *alābu*, and *jalaukas* work through suction. Of these three, only *jalaukas* is included as an *anuśāstra*, because the leech provides both the sharp bite and the suction to

<sup>8</sup> In this list, *agni*, indicates *agnikarman*, the use of fire, or cauterization.

<sup>9</sup> *śiśūnāṃ śāstrabhīrūṇāṃ śāstrābhāve ca yojayet |*  
*tvaksārādicaturvargaṃ chedye bhedye ca buddhimān ||*  
*āhāryacchedyabhedyeṣu nakhaṃ śakyeṣu yojayet |*  
*vidhiḥ pravakṣyate paścāt kṣāravahnijalaukasām ||*  
*ye syur mukhagatā rogā netravarimagatās ca ye |*  
*gojīśephālikāsākapatrair visrāvayet tu tān ||*  
*eṣyeṣv eṣaṇyalābhe tu bālāṅgulyaṅkurā hitāḥ ||* (*SS Sū* 8.16–8.18)

In the published edition, the line *eṣyeṣv eṣaṇyalābhe tu bālāṅgulyaṅkurā hitāḥ* is given as an extra two *pādas* following—but connected to—8.18, and preceding 8.19

facilitate bloodletting. The other two gentle methods work on wounds or cuts produced by the physician and the blood is extracted by (a human) sucking on the end of the horn (*śṛṅga*), or a small flame-induced vacuum inside of the bottle gourd (*alābu*).

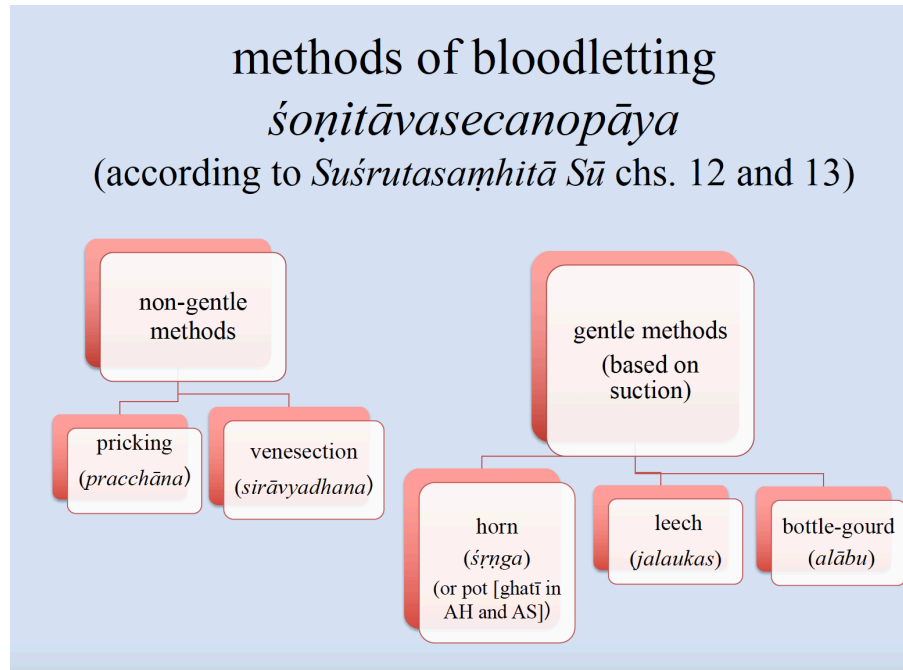


Figure 19: Methods of bloodletting

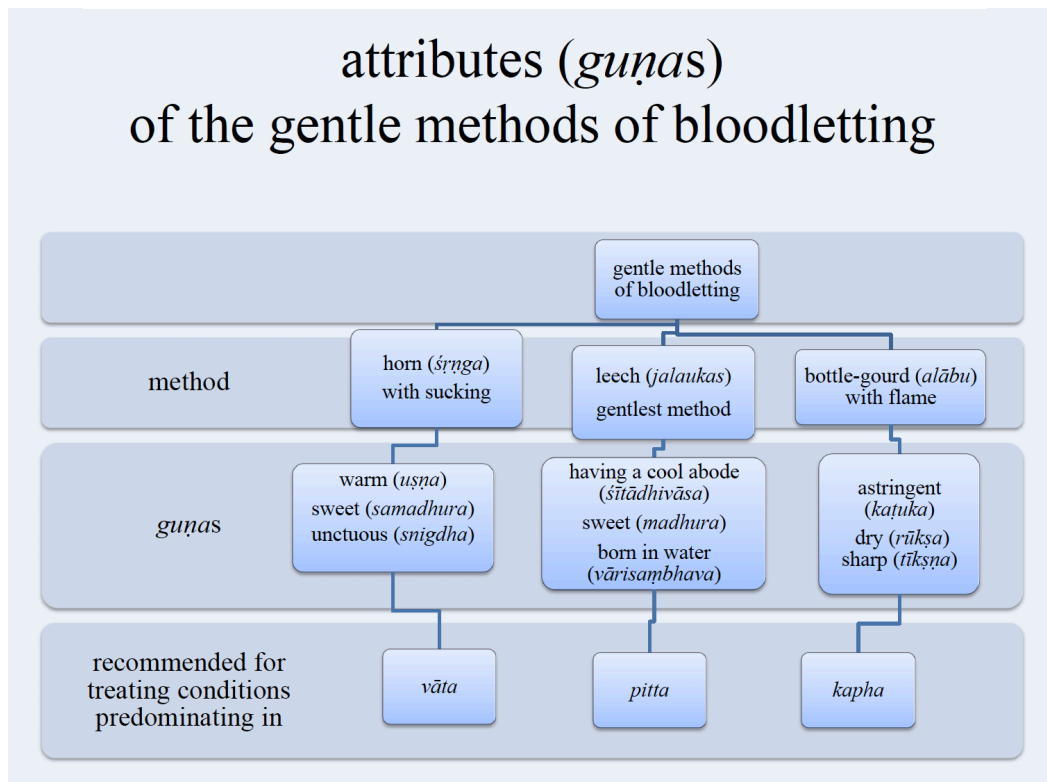


Figure 20: Attributes (*guṇas*) of the gentle methods of bloodletting

As we have seen, in the *Suśrutasaṃhitā* leeches are explicitly classified as *anuśāstra* and as the gentlest method of *raktamokṣa*. But what are other ways that we might understand leeches and their role in medical practice? A fundamental classification found in the classical treatises is that of the “four pillars of treatment.”<sup>10</sup> The *Suśrutasaṃhitā Sūtrasthāna* 34.15–17 lists the (four) pillars (*pādāścikitsāḥ*) as the physician (*vaidya*), patient (*vyādhi*), medicine (*bheṣaja*), and assistant/attendant (*paricāraka*).<sup>11</sup> Dagmar Wujastyk’s monograph on medical ethics in classical Āyurveda opens with a detailed study of the four pillars. Wujastyk explains that she will only be treating the three human pillars—physician, patient, and attendant/assistant—because it is only within relationships between humans that a medical ethic is evinced. Rather, in relation to medicine, she explains,

Though medical plants and substances, their medicinal properties, preparations, and uses are described at length throughout the ayurvedic compendia (and probably form the largest part of these), the ethics of their use is confined to a few statements regarding the care a physician must take in utilizing them. This care concerns the correct use of medicines in terms of choice of drug and dosage to achieve the patient’s cure, and to avoid harming the patient through inappropriate medication. There is no indication of any specific care being directed toward the plants themselves (as, for example, through practices of sustainable harvesting) that would point to an ecological ethic.<sup>12</sup>

As we shall see in this translation and study of *Suśrutasaṃhitā Sūtrasthāna* chapter 13, leeches engaged as an *anuśāstra* for bloodletting complicate this picture. First, the relationship between physician and leech has, I would argue, an ethical component. It is not an ecological ethic, but rather an ethic of proper nurturance (*poṣaṇa*), of caring for leeches, and of communication, learning to understand and interpret their behavior and to successfully enroll them in *jalaukāvacaṛaṇa*. I propose that leeches further complicate the classification put forth in the four pillars. On one hand, if we understand leeches as *anuśāstra*, as accessory sharp instruments, then they fit into the scheme under the category of physician, as the physician is expected to have the proper tools and medicines at the ready.<sup>13</sup> On the other hand, as noted above, leeches are an unusual and unpredictable *anuśāstra*, in fact it is not simply the touch of their teeth that are engaged in the practice, but rather, their desire to feed, their suction, and the exudation of their saliva. In *Suśrutasaṃhitā Sūtrasthāna* chapter 13 translated below with commentary, we will see that all of these factors are of concern in the treatise.

Leeches exceed the category of *anuśāstra*, and they also do not quite fit into the category of *dravya*. *Suśrutasaṃhitā Sūtrasthāna* 1.28–32 discusses medicinal substances (*dravyas*) as having the six tastes (*rasas*) contained in foods and medicines. Under the category of *dravya*

<sup>10</sup> For a detailed study of the “four pillars” in relation to medical ethics in Āyurveda, Wujastyk, *Well-Mannered Medicine*. I follow her translation of *catuspāda* and *pādacatuṣṭaya* (*CS Sū* 9) “four pillars” and “quartet of pillars.” In his translation of *SS*, P. V. Sharma translates *pādāścikitsāḥ* as (four) limbs of treatment. See *Suśruta, Susruta-Samhita*, 325.

<sup>11</sup> In the *CS Sū* 9, the four pillars are listed using the following terms and order: physician (*bhiṣaj*), medicine (*dravya*), attendant/assistant (*upasthātr* / *paricara jana*), and patient (*rogin*).

<sup>12</sup> Wujastyk, *Well-Mannered Medicine*, 26.

<sup>13</sup> In *Suśrutasaṃhitā Sūtrasthāna* 34.20 the ideal physician is described as *sajjopaskarabheṣajah*, one having prepared implements and medicine.

there are two types of medicines (*oṣadhi*): unmoving (*sthāvara*) (four types of plants and fungi) and moving (*jaṅgama*) (four types classified according to manner of birth). The latter category is further divided into four: 1) amnion-born (*jarāyuja*), 2) egg-born (*aṇḍaja*), 3) sweat/vapor-born (*svedaja*), and 4) sprouting forth (*audbhijja*). Leeches would fall into the category of *audbhijja* as they are believed to arise from the rotting of plant and animal matter. An additional category is added, of the earth (*pārthiva*), including gems and minerals. According to this classification of medicines, the useful (*prayojanavat*) parts from the moving (*jaṅgama*) category of *oṣadhi*—which would include leeches—are skin (*carman*), nails (*nakha*), hair (*roma*), blood (*rudhira*), etc. This focus on animal parts rather than their actions reflects the facts of death and partial use. It is not parts of dead leeches that are functioning in bloodletting, rather living leeches and their sensibilities.<sup>14</sup> One could argue that leech saliva is used, but it is not isolated from the leeches and administered at the physician’s will. Again, leeches seem to exceed this classification or to inhabit a space between and overlapping a number of these schemas.

### Leech Sense-abilities

Before presenting my translation and analysis of the chapter on leech therapy, I wish to highlight a moment of trouble indicated in the commentary in which we see that there is a concern with the nature and function of leeches. *Suśrutasamhitā Sūtrasthāna* 13.21, explains the signs that it is time to remove a leech that has been sucking a patient’s blood.

It is said, through manifestations of pain and itching on the bite, one should understand that [the leech] takes pure (*śuddha*) [blood]. One should remove [the leech] taking pure blood. Now, if because of the smell of blood (*śonitagandha*), its mouth should not release, one should sprinkle it with sea-salt powder.<sup>15</sup>

In his *Nibandhasaṃgraha* commentary, Ḍalhaṇa’s discussion of *Sūtrasthāna* 13.21 mentions some variant readings for this segment, which is explaining the signs that it is time to remove a leech (*jalauka*) that has been sucking a patient’s blood. As Dominik Wujastyk has noted, based on the fact that in his commentary Ḍalhaṇa repeatedly provides alternate readings, we can discern that he had access to other commentaries on the *Suśrutasamhitā*.<sup>16</sup> Central to this gloss is the idea, first attested in the works of Vāgbhaṭa, that in the course of bloodletting the leech has a special capacity (*prabhāva*), described earlier, to suck vitiated or “spoiled” blood (*duṣṭa*) from the patient before extracting unspoiled blood (*aduṣṭa*), like a swan is understood to drink only milk from a mixture of milk and water. Ḍalhaṇa glosses,

He says, “pain,” etc. showing the means of knowing, in reference to their (leeches’) taking pure blood. “Pain” [means] pain (*vyathā*) because of wind (*vāyu*) arising from the destruction of the red component of blood (*rakta dhātu*). Because of the destruction of pure blood, here itching (*kaṇḍū*) would not be caused by *kapha* (*śleṣman*); some do not

<sup>14</sup> The use of leech feces is prescribed in a recipe for the treatment of *apasmāra* (epilepsy) by fumigation in *CS Ci* 10.40.

<sup>15</sup> *damṣe todakaṇḍuprādurbhāvair jānīyāc śuddham iyam ādatta iti; śuddham ādadānām apanayet; atha śonitagandhena na muñcen mukham asyāḥ saundhavadcūrṇāvakiret || (SS Sū 13.21)*

<sup>16</sup> Wujastyk, “New Evidence for the Textual and Cultural History of Early Classical Indian Medicine,” 145.

construe the word “itching.” **But others say, “because of somic/watery (*saumya*) *kapha dhātu*’s destruction of the fiery (*āgneya*) red component of blood, because of the increase promoted by moisture in the mouth of the leech, itching arises.”** But others read, “with manifestations of pain and itching of the biting-fly.” And they explain biting-fly is a gadfly (*vanamakṣikā*); that which is made by a biting-fly is pain [meaning] pain (*vyathā*); on that pain, whatsoever itching, when there would be that type of itching, then one should understand the taking of pure blood. He says, “pure,” etc. What should one do in that case? One should sprinkle [means] one should sprinkle with powder (*avacūrṇayet*). **Or others read, “with desire for blood” (*śonitagardhena*) [meaning] with an inclination for blood (*abhikāṅkṣayā*), and they say “by means of smell” (*gandhena*) is not a suitable reading. Why? Because leeches do not have a faculty of smell.<sup>17</sup>**

Ḍalhaṇa presents two possible reasons that a leech sucking impure blood will cause pain and itching sensations at the site of the bite. These reasons reveal his understanding of the mechanism of action at the contact point of a leech’s bite in terms of the transformation of attributes (*guṇas*) and their attendant actions (*karman*) through the movement of substance (*dravya*)—in this case human blood and leech saliva. First, Ḍalhaṇa confirms that the pain is caused by *vāyu*, wind generated from the destruction of *rakta dhātu*, the red component of blood. The itching in this case itching should not be understood to have its usual cause of *śleṣman/kapha*. Then he provides a counterargument, that indeed, itching is ultimately caused by somic/watery *kapha dhātu*’s destruction of the fiery *rakta dhātu*, because of contact with the moisture of the leech’s mouth. A third reading is also provided, as he notes that some read *daṃśa* as a biting fly and states that the itching of a leech taking pure blood is the same type of itching that arises from the pain of a fly-bite. At stake is the nature of the properties of the leech, its mechanism of action, and its impact on the body of the human being bitten. Here, the opposition between fiery (*āgneya*) and somic/watery (*saumya*) that is found often in Suśruta is central.<sup>18</sup> Also key is the idea of the attributes, *guṇas*, which are being transferred, or interacting between

<sup>17</sup> *tāsām viśuddharaktādāne vijñānopāyaṃ darśa[ya]nn āha todety ādi | todo vyathā sa dhātukṣayotpanna vāyunā | śuddharaktakṣayāt śleṣmakāryaṃ kaṇḍūr iha nasyād iti keci kaṇḍūgrahaṇaṃ na kurvanti anye tu vadanti āgneyarakadhātukṣayāt kaphadhātoḥ saumyasya jalaukāmukhakedavardhitasya vṛddheḥ kaṇḍūsambhava iti anye tu daṃśatodakaṇḍūprādurbhāvaiḥ iti paṭhanti | vyākhyānanti ca daṃśo vanamakṣikā daṃśena kṛto yas todo vyathā tasmin tode yādrśī kaṇḍūs tādrśī kaṇḍūr yadā syāt tadā śuddharaktādānaṃ jānīyāt | tatra kiṃ kuryād ity āha śuddham ity ādi | avakiret avacūrṇayet | anye tu śonitagardhena iti paṭhanti gardhenābhikāṅkṣayā vadanti ca gandhena ity ayuktaḥ pāṭhaḥ | kutaḥ yāsmāj jalaukasām gandhendriyaṃ nāstīti || Suśrutasaṃhitā, 58.*

<sup>18</sup> Here, I follow Raul Peter Das’s translation of *saumya* as somic, i.e., related to *soma*, but acknowledging the attendant qualities of watery and cool in relation to leeches and their saliva. See Rahul Peter Das for a discussion of the relationship between the attributes of *āgneya* and *saumya* to the attributes of hot and cold. Das, *The Origin of the Life of a Human Being*, 521–527. Dominik Wujastyk argues, “the Agni/Soma polarity expressed itself as a two-humor fire-water medical theory that is older than the classical three-humor doctrine in Āyurveda.” Dominik Wujastyk, “Agni and Soma: A Universal Classification,” 366. This is supported by Natalie Köhle’s work arguing that bile (*pitta*) and phlegm (*śleṣman/kapha*) appear in the early strata of the *SS* as digestive fluids, predating tri-humoral (*tridoṣa*) theory. See Köhle, “A Confluence of Humors: Āyurvedic Conceptions of Digestion and the History of Chinese ‘Phlegm’ (Tan).” For a discussion of the gendered poetics of *agni* and *soma* in the *SS* see Selby, “Narratives of Conception, Gestation, and Labour in Sanskrit Āyurvedic Texts.”

the leech and human then circulating in the leech and human bodies. In the first case, he seems to postulate that it is the increase of wind in the action (*karman*) of sucking that is causing motion and reduction of *rakta*, thus causing the symptom. In the latter case, he suggests that it is the interaction of the attributes (*guṇas*) of somic leech saliva with fiery vitiated *rakta* that causes itching. This interaction of *guṇas* centers on the leech's saliva, and the leech itself, as a fluid body in contact with the fiery portion of the blood.

In clinical practice, blood and vitiated blood were both considered to be *āgneya*.<sup>19</sup> Dalhaṇa's commentary to *SS Sū* 14.7 reveals two scholarly positions on the relationship of blood with the qualities of hot/fiery (*āgneya*) and somic/watery/cool (*saumya*). The verse follows a statement in *SS Sū* 14.6 that menstrual blood (*rajas*) is produced by women from chyle (*rasa*). It explains that menstrual blood (*ārtavaṃ śoṇitaṃ*) is *āgneya*, as follows from the fact that the fetus, which is made from a combination of menstrual blood and *saumya* semen (*śukra*), is both *āgneya* and *saumya*. *ārtavaṃ śoṇitaṃ tv āgneyam agnīśomīyatvāt garbhasya* | (*SS Sū* 14.7). Rahul Peter Das notes that the first part of the passage “*ārtavaṃ śoṇitaṃ tv*” has two variants attested in the commentaries of Dalhaṇa and Cakrapāṇidatta: 1) “*ārtavaśoṇitaṃ tv*,” which he reads as meaning either “menstrual blood and blood are fiery” or “menstrual blood is fiery”; and 2) “*ārtavaṃ śoṇitaṃ ca*,” meaning “menstrual blood and blood are fiery.”<sup>20</sup> In his commentary, Dalhaṇa understands blood (*śoṇita*) to be *āgneya*. “Because of the difference (*bheda*) in nature of *ārtava* and *śoṇita*, in reference to the stated *āgneya* of *ārtava* the fiery nature of *śoṇita* is also stated.”<sup>21</sup> The passage is complicated by the fact that the treatise often interchangeably uses the

<sup>19</sup> Blood vitiated by *vāta* and *kapha* could be understood as having cool qualities, however this was not applicable to the types of *vraṇa* cases seen in the clinic or ideal for treating through *jaluakāvacāraṇa*.

<sup>20</sup> One of the variant readings, *ārtavaśoṇitaṃ tv āgneyam*, was used by Cakrapāṇidatta and mentioned by Dalhaṇa. It translates as “menstrual blood is fiery.” The other variant reading is discussed in Cakrapāṇidatta's commentary and replaces *tu* (however) with *ca* (and), clearly rendering menstrual fluid and blood as two separate items. See Das, *The Origin of the Life of a Human Being*, 129, 132.

<sup>21</sup> *ārtavaśoṇitayoḥ svabhedād ārtavasyāgneyatva ukte śoṇitasyāpy āgneyatvam uktam eveti* | *Suśrutasaṃhitā*, 38; Also, cf. Dominik Wujastyk, “Agni and Soma,” 356; Suśruta, *Suśruta-Saṃhitā*, 144; This passage follows a statement in *SS Sū* 14.6 that menstrual blood (*rajas*) is produced by women from chyle (*rasa*); *ārtavaṃ śoṇitaṃ tv āgneyam, agnīśomīyatvāt garbhasya* (*SS Sū* 14.7). “However, menstrual blood is fiery due to the fiery-watery (*agnīśomīya*) nature of the embryo.”

[Dalhaṇa]: He says, “menstrual,” etc., showing the difference in nature of blood (*rakta*) and menstrual fluid (*ārtava*) although arisen from watery chyle (*rasa*). Here, the word “but” is in reference to difference (*bheda*), therefore, menstrual fluid and blood, although produced from watery *rasa*, are fiery. For what reason? He says, “due to the fiery-watery nature of the embryo.” Menstrual fluid (*ārtava*) is fiery, semen (*śukra*) is watery. From them the fiery-watery embryo arises. But, if menstrual fluid is also watery, then that embryo originating from watery would only be watery, and this is not so. Because of the embryo's fiery-watery nature, here, the fiery-ness of menstrual fluid (*ārtava*) is stated. Because of the non-difference in the nature of menstrual fluid (*ārtava*) and blood (*śoṇita*), in reference to the stated fiery-ness of menstrual fluid (*ārtava*) **the fiery nature of blood (*śoṇita*) is also stated.** Others read, “*ārtavaśoṇitaṃ tv āgneyam* (menstrual blood is fiery).” They comment, “*ārtavaśoṇitaṃ* [means] menstrual fluid (*ārtava*) and its blood (*śoṇita*). Here the word but (*tu*) is in the sense of restriction (*avadhāraṇa*), therefore it causes restriction (in meaning) to the fiery-ness of *ārtava*.” Also, teachers consider blood (*rakta*) as neither hot-nor cold.

*raktārtavayoḥ saumyarasasambhūtayor api svabhāvabhedam darśayann āha ārtavam ityādi | tuśabdo 'tra bhede tena rasāt saumyāj jātam apyartavaṃ śoṇitaṃ cāgneyam | kutaḥ kāraṇād ityāha agnīśomīyatvāt garbhasyeti | ārtavam āgneyam śukram saumyam tābhyām agnīśomīyo garbho bhavati | nanu yady ārtavam api saumyam bhavati tadā saumyārabdhah saumya eva garbho bhavati na caivam*



terms *ārtava* and *śoṇita* to mean menstrual blood, and the terms *śoṇita*, *rakta*, and *asṛj* to mean blood. However, at the end of his gloss on an alternate reading of the verse, he explains: “However, scholars consider blood neither hot, nor cold.”<sup>22</sup> Regardless, we learn later in the chapter that an increase in vitiated blood (*duṣṭa śoṇita*) causes heat (*dāha*), so we know that vitiated blood removed through *jalaukāvacāraṇa* is *āgneya*.<sup>23</sup>

The second main point Ḍalhaṇa makes relates to the problem of whether the leech has the ability to smell and how that effects the leech’s participation in the treatment. Ḍalhaṇa’s Suśruta says that if the leech does not release easily once it is sucking pure blood then it is because of the smell of the blood. According to *Carakasamhitā Sūtrasthāna* 1.48, substance (*dravya*) is bifurcated; it is either sentient (*cetana*) or insentient (*acetana*). Sentient matter is possessed of the sense faculties, so at stake is the nature of the leech as a medical actor—as a sentient being. However, Ḍalhaṇa notes that some reject this reading of the text and instead of reading *śoṇitagandhena*, they read *śoṇitagardhena*, with desire for blood, rejecting the possibility that leeches have a sense of smell. It is possible that the unidentified commentary mentioned reflects the Jain classification of moving beings according to the number of senses they have: one-sensed (touch/*sparśa*), two-sensed (touch and taste), three-sensed (touch, taste, and smell), four-sensed (touch, taste, smell, and sight), or five-sensed (touch, taste, smell, sight, and hearing).<sup>24</sup> According to this system, worms, which would likely include leeches, are two-sensed beings possessing only touch and taste, but not smell.<sup>25</sup> Either of these readings reveals a concern with

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*agnīśomīyatvād garbhasyety atrārtavasyāgneyatvam ucyate ārtavaśoṇitayoḥ svabhāvābhedād ārtavasyāgneyatve ukte śoṇitasyāpyāgneyatvam uktam eveti | ‘ārtavaśoṇitam tvāgneyam’ ityanye paṭhanti “ārtavam ca tacchoṇitam cety ārtavaśoṇitam tuśabdo ’trāvadhāraṇe tenārtavasyāgneyatvam avadhārayati” iti vyākhyānanti | raktaṃ punar anuṣṇāśitam evam ācāryā manyante || Suśrutasamhitā, 59–60.*

This reading (*ārtavaśoṇitam tv āgneyam*) is attested in the version of *Suśrutasamhitā* cited by Cakrapāṇidatta in his published commentary on the *Suśrutasamhitā Sūtrasthāna* (this is the only complete section of his commentary that survives). He is clear that *ārtavaśoṇitam* is menstrual blood and that blood (*rakta*) has the dual nature of being both watery and fiery. In his commentary on this verse, when he refers to blood as *śoṇita* he distinguishes it as *dhātuśoṇita*, tissue-blood, situating blood as one of the seven tissue layers in contrast to menstrual blood, which is an *upadhātu*, an accessory tissue/constituent, of chyle (*rasa*). *Suśrutasamhitā Sūtrasthānam with Bhānumatī Commentary*, 102.

<sup>22</sup> *raktaṃ punar anuṣṇāśitam evam ācāryā manyante | Suśrutasamhitā, 60.*

<sup>23</sup> *tad duṣṭam śoṇitam nirhriyamāṇam śopadhārahāgapākavedanā janayet | (SS Sū 14.29)*

<sup>24</sup> See *Tattvārtha Sūtra* 2.22–23. According to N. L. Jain, the *Tattvārtha Sūtra* is a circa third-century CE text and the *Tattvārtha-Rājavārtika* commentary of *Akalaṅka* dates to the eighth century CE. See Jain, *Biology of Jaina Treatise on Reals*, 3. According to Jain’s translation of the *Tattvārtha-Rājavārtika* of *Akalaṅka*, the commentary explains the order of the senses in a gloss to 2.19 “*sparśana-rasana-ghrāṇa-caḥṣus-śrotrāṇi*” as follows: “3. The sense of touch has been placed first in 2.19 as it is pervasive of the whole body of the individual. 4. It is also mentioned in the aphorism 2.21 indicating the first sense in the plants which means the sense of touch only. 5 Thirdly, it is found in all the worldly beings. Hence, it is pervasive in all the living beings. 6. The sense of taste, smell and sight are placed next in order because they are gradially smaller and smaller. The spacepoints of the eye are the smallest in number...7..... the sense of hearing has been placed at the end because it is highly serving the living beings. One listens about the good and bad aspects through them and moves towards the good.” Jain, *Biology of Jaina Treatise on Reals*, 113.

<sup>25</sup> In his supplemental notes to the *Tattvārtha-Rājavārtika* commentary, Jain classifies leeches as a type of worm (although misidentifying their Linnaean Class), and thus as a one-sensed being having only the faculty of touch. Jain, *Biology of Jaina Treatise on Reals*, 126.

the nature of leeches as beings, points to a tension regarding their classificatory status in Āyurveda and acknowledges that leeches play a discretionary role in the process of leeching by deciding when to touch.

Now we turn to *SS Sū* 13. In my annotated translation, sections of the in text and commentary bold font is used to point out passages that highlight leech agency and human-leech intra-action, both through touch and through other forms of communication. This translation is also meant to refract the ethnographic portion of the chapter through a foundational frame of reference understood to inform the *vascularity* of *jalaukāvacāraṇa* in the clinic.<sup>26</sup>

### **Suśrutasamhitā Sūtrasthāna chapter 13**

Henceforth we will explain the chapter “on the application of leeches” (*jalaukāvacāraṇīyam*). Thus, spoke venerable Dhanvantari (to Suśruta).<sup>27</sup>

[Ḍalhaṇa]: “henceforth,” etc.<sup>28</sup>

For the purpose of helping kings, prosperous people, young, elderly, timid, weak, women, and tender ones, this, the most-tender method for releasing blood, is namely, leeches (*jalaukas*).<sup>29</sup>

[Ḍalhaṇa]: He says, “kings, prosperous people,” etc., explaining the subject of leeches. “For the purpose of helping” [means] with the aim of assisting. “This most tender,” has the sense of (this) foremost gentle. Two gentle methods are the horn and the bottle-gourd, but the leech is the gentlest method. The non-gentle methods are pricking and venesection.<sup>30</sup>

In that case, one should let (*avasecayet*) blood vitiated (*duṣṭa*) by *vāta*, *pitta*, and *kapha*, respectively, with horn, leech, and bottle-gourd, or alternatively, all [types of vitiated blood] by means of all (but particularly, one should take vitiated blood by means of horn, leech, or bottle-gourd).<sup>31</sup>

<sup>26</sup> Much of Ḍalhaṇa’s commentary on this *adhyāya* has not been previously translated into English. See Suśruta, *Suśruta-Samhitā*, 134–141.

<sup>27</sup> *athāto jalaukāvacāraṇīyam adhyāyam vyākhyāsyāmaḥ | yathovāca bhagavān dhanvantariḥ || (SS Sū 13.1–2)*

<sup>28</sup> *athāta ityādi || Suśrutasamhitā*, 55.

<sup>29</sup> *nṛpādhyabālasthavirabhīrudurbalanārīsukumārāṇām anugrahārtham paramasukumāro ’yam śoṇitāvasecanopāyo ’bhihito jalaukasah || (SS Sū 13.3)*

<sup>30</sup> *jalaukasām viṣayam nirḍisann āha nṛpādhyetyādi | anugrahārtham iti upakārārtham | paramasukumāro ’yam iti pradhānamṛdur ity arthaḥ śṛṅgālābū sukumāropāyau jalaukasas tu paramasukumāropāyo ’sukumāropāyas tu pracchannaṁ sirāvyadhanaṁ || Suśrutasamhitā*, 55. (*pracchannaṁ* appears to be a misspelling of *pracchānaṁ*)

The editor’s notes to this verse cite *AH Sū* 26.53–55a/b to expand on the indications for each type of bloodletting.

<sup>31</sup> *tatra vātapittakaphaduṣṭaśoṇitaṁ yathāsamkhyam śṛṅgajalaukālabubhir avasecayet sarvaṇi sarvaivā viśeṣas tu visrāvyam śṛṅgajalaukālabubhir grhṇīyāt || (SS Sū 13.4)*

I translate *visrāvyam*, lit. “to be bled,” as vitiated blood.

[Ḍalhaṇa]: Although leeches have a specificity of *doṣa*, he says, “there *vāta*,” etc., in order to show the scope of horn and bottle gourd coming from connection with that [context]. After this some (commentators) quote the cause, namely “because of oiliness, coldness and dryness,” and the writer of the *Nibandha* does not read that.<sup>32</sup> He says, showing another position “all,” etc. “All” [means] bloods vitiated by *vāta*, *pitta* and *kapha*. “By all” [means] with horn, etc. According to availability. But, having said “respectively,” the stated “alternatively, all, by means of all” would be an ambiguous statement. With this intention he says, “but particularly one should take vitiated blood by means of horn, leech or bottle-gourd.” Which (blood) needs to be let with very excessive flow, one should extract that blood with the horn, etc., that is the sense.<sup>33</sup> However, the reading “but particularly” etc. has been commented upon, in some way, only by some commentators, but by has been omitted by many, Jejjhata, etc.<sup>34</sup>

And, here are the verses:<sup>35</sup>

The horn of cows is mentioned as warm, sweet, and unctuous, so therefore it is appropriate in the case of bloodletting when *vāta* is predominant.<sup>36</sup>

The leech is sweet, inhabiting cold, born in water, so therefore it is appropriate in the case of bloodletting when *pitta* is predominant.<sup>37</sup>

The bottle-gourd is mentioned as astringent, dry, and sharp, therefore it is appropriate in the case of bloodletting when *śleṣma* is predominant.<sup>38</sup>

[Ḍalhaṇa]: “And here are,” etc. He says, here, showing the reasonable application of the horn, etc., in reference to that (blood) vitiated by *vāta*, etc. “Sweet” [means] slightly oily,

<sup>32</sup> Here, Ḍalhaṇa is referring to himself as “*nibandhakārāḥ*,” author of the *Nibandhasamgraha*. Ḍalhaṇa commonly uses the plural to refer to himself as well as the authors of other commentaries. See also the commentary to *SS Sū* 13.4.

<sup>33</sup> The idea is that gentle methods enable regulation of the release of large amounts of blood.

<sup>34</sup> *doṣaviśeṣeṇāpi jalaukasām tatprasāṅgāgatasya śṛṅgasyālābvās ca viśayaṃ darśayitum āha tatra vātetyādi | asyāgre kecit ‘snigdhasātarūksatvāt’ iti hetum udāharanti amuṃ ca nibandhakārā na paṭhanti | pakṣāntaram darśayann āha sarvaṇītyādi | sarvāṇi vātapittakaphaduṣṭāni śoṇitāni sarvair iti śṛṅgādibhir yathālābham | nanu yathāsamkhyam ity abhidhāya sarvāṇi sarvair vety uktam aniyataṃ vacanaṃ syāt ity abhiprāyeṇāha viśeṣatas tu visrāvyam śṛṅgajalaukālābubhir grhṇīyāt iti atīśayena visrāvaṇārhaṃ yat bhavati śoṇitam atiprabalatayā tac śṛṅgādibhir grhṇīyān nirhared ity arthaḥ | viśeṣatas tv ityādi pāṭhas tu kaiścid eva nibandhakārāiḥ kathaṃcid eva vyākhyātaḥ bahubhis tu jejjhaṭādibhiḥ pariḥṛta eva || Suśrutasaṃhitā, 55*

There may be a printing error in the spelling of the famous seventh-century commentator Jejjhata as Jejjhata.

<sup>35</sup> *bhavanti cātra ślokāḥ ||*

<sup>36</sup> *uṣṇam samadhuram snigdham gavām śṛṅgam prakīrtitam | tasmād vātopasṛṣṭe tu hitam tad avasecane || (SS Sū 13.5)*

<sup>37</sup> *śītādhivāsā madhurā jalaukā vārisambhavā[h] | tasmād pittopasṛṣṭe tu hitā sā tv avasecane || (SS Sū 13.6)*

<sup>38</sup> *alābu kaṭukam rūkṣam tīkṣṇam ca parikīrtitam | tasmāc śleṣmopasṛṣṭe tu hitam tad avasecane || (SS Sū 13.7)*

some read, “oily, smooth, sweet.” “Inhabiting cold” [means] one whose home is cold.<sup>39</sup>

On the cut, one should let blood with a horn covered with a thin bladder or spider web by means of sucking, [or] with a bottle-gourd having a flame inside. (They will explain the leech [hereafter].)<sup>40</sup>

[Ḍalhaṇa]: “On the cut,” etc., he says, showing the application of horn and bottle-gourd arising from connection to the letting of blood spoiled by the *doṣas*, *vāta*, etc. Here, “bladder” [means] the abode of urine. “Spider web” [means] dense-strong spider’s web. And the word “thin” connects with both. Or, according to others they read “covered with a covering of thin cloth” (adding *vastra*), and they explain, covered with a thin cloth-covering. “Having a flame inside,” [means with a bottle-gourd] accompanied by a flame in the middle, blood should be let, that is the syntax. Some read differently [with regards to] bloodletting (*avacāraṇa*) by means of bottle-gourd. That is to say, “in relation to birch-leaves, hemp, or cotton,” etc. This complete reading is not written [here] because of non-attestation. Measurement of the horn and bottle-gourd is to be obtained clearly from Bhāluki.<sup>41</sup> And moreover, his statement, “Horn of a white cow, bent like a moon, having the length of seven thumb-widths, with a piece of cotton placed inside, is to be used when blood is accompanied by *vāta* (i.e., blood is moving fast). At its root, it is like the root of a thumb (in size), its hole at the top like a mung (bean).” “Well-shaped, having a circumference of eight thumb-widths, having a diameter of four thumb-widths, body smeared with black clay, this is best bottle-gourd for the purpose of bloodletting.” But others read the measurement of the horn and bottle gourd here (in the *SS*), and likewise the characteristic of blood vitiated by *vāta*, etc. We have not cited that reading (Bhāluki’s) because of its non-attestation.<sup>42</sup>

<sup>39</sup> *tatra vātādiduṣṭe sahetuśrṅgādy avacāraṇam darśayann āha bhavanti cātreyādi | samadhuram iṣatsnigdham kecit ‘snigdham ślakṣṇam samadhuram’ iti paṭhanti | śītādhivāsā[h] śītagrḥā[h] ||*

<sup>40</sup> *tatra pracchite tanubastipaṭalāvanaddhena śrṅgeṇa śoṇitam avasecayed ācūṣaṇāt sāntardīpayā ’lābvā | (jalāyukā vakṣyante) || (SS Sū 13.8)*

<sup>41</sup> As discussed in Chapter 2 of this dissertation, Bhāluki was the author of another medical treatise addressing surgery, the *Bhālukitantra* (also cited as *Bhālukīya*) which is now lost, but partly survives through citations in commentarial material. Meulenbeld suggests, “The comments of Cakrapānidatta and Ḍalhaṇa on Suśruta’s chapters about surgical instruments show that Bhāluki’s treatise was probably one of the sources of the *Suśrutasamhitā*.” Meulenbeld, *HIML*, 1A:690.

<sup>42</sup> *vātādiduṣṭarudhirasrāvaṇaprasaṅgāgatayoḥ śrṅgālābukayor avacāraṇam darśayann āha tatra pricchate ityādi | bastir atra mūtrāśayaḥ paṭalam ghanam śubhram markāṭikājālakam tanuśabdā tu dvayor api sambadhyate | anye tu ‘tanuvastrapaṭalāvanaddhena’ iti paṭhanti vyākhyāyanti ca sūkṣmavastrāvarānapihitena | sāntardīpayā madhyadīpasahitayā śoṇitam avasecayet iti sambandhaḥ | kecid alābvā avacāraṇam anyathā pathanti tathāhi bhūrjapatrasānatulānām ityādi | ayam pāṭho ’bhāvāt samagro na likhitaḥ | śrṅgālābupramāṇam bhālukisakāśād avagantavyam | tathā ca tad vacaḥ “viśāṇam śvetagor induvakram saptāṅgulāyatam | kṣiptāntahpicupeśikam yojyam vātayute ’srji || aṅguṣṭhamūlavan mūle chidram agre ’sya mudgavat’ iti “aṣṭāṅgulapariṇāhā caturaṅgulanālasammitā sumukhī | kṛṣṇamṛdāliptatanuḥ śreṣṭhā raktāvasecane ’lābuḥ” iti | anye tu śrṅgālābupramāṇam atraiva paṭhanti tathā vātādiduṣṭarakṣaṇam ca sa ca pāṭho ’smābhir abhāvān likhitaḥ || Suśrutasamhitā, 55–56.* Note that in his commentary Ḍalhaṇa gives us a sense of his own textual criticism. As noted above, he often acknowledges variant readings, but notes that he does not accept them when they are not in the manuscript(s) he is working with.

[The term] leeches (*jalāyukā*), is explained etymologically, “those whose life is water.” [The term] leeches (*jalaukas*) is explained, “those whose abode (*okas*) is water.”<sup>43</sup>

[Dalhaṇa]: “Those whose life is water,” he explains the etymology of “leeches.” Of whom, of leeches, “water is life,” i.e., “*jalāyukāḥ*,” “are called,” is supplied. He explains another view on the etymology, “those whose abode is water,” i.e., “*jalaukasah*.”<sup>44</sup>

They are twelve. Six of them venomous, the same number non-venomous.<sup>45</sup>

[Dalhaṇa:] Now, “they are twelve,” he says, to explain the enumeration of leeches suitable for treatment. “Of them,” etc., he tells the duality of the same, due to the distinction between venomous and non-venomous. Here the word same is for the purpose of removing the doubt regarding eight leeches with poison in another teaching.<sup>46</sup>

Therein, venomous leeches are known as “blue-black,” “prickly,” “serpent-like,” “rainbow,” “marine,” and “sandalwood-like.”<sup>47</sup> Among these, “blue-black” is broad-headed, having the color of collyrium-powder; “prickly” is long like the armor-clad fish having a segmented-protruding abdomen; “serpent-like” is black-faced, hairy, having broad sides; “rainbow” is variegated with lines on top like a rainbow; “marine” is variegated with the appearance of brilliant blossoms, slightly black-yellow; “sandalwood-like” is small headed, having the appearance of being twofold on the lower part like the scrotum of a bull. When a person is bitten by these (venomous leeches) the symptoms are excessive swelling at the bite, itching, fainting, fever, burning, vomiting, intoxication, and fatigue. In that case, *mahāgada* should be used in the treatments of drinking, smearing, and nasal oleation, etc.<sup>48</sup> The bite of “rainbow” is incurable. These venomous leeches, with treatment, are explained.<sup>49</sup>

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In practice, the measurement of *aṅgula* is understood to refer to *svāṅgula*, the thumb-width of the patient.

<sup>43</sup> *jalām āsām āyur iti jalāyukāḥ | jalāmāsām oka iti jalaukasah || (SS Sū 13.9)*

Refer to footnote 1 in Chapter Five for a discussion of the terms for leech used here.

<sup>44</sup> *jalaukasām niruktim āha jalāmāsām āyur ityādi | āsām jalaukasām jalām āyur iti jalāyukāḥ ‘kathyante’ ity adhyāhārah | niruktipakṣāntaram āha jalāmāsām oka iti jalaukasah || Suśrutasaṃhitā, 56.*

<sup>45</sup> *tā dvādaśa tāsām saviṣāḥ ṣaṭ tāvaty eva nirviṣāḥ (SS Sū 13.10)*

<sup>46</sup> *idānīm cikitsopayoginīm jalaukasām saṃkhyām nirdeṣṭum āha tā dvādaśetyādi | tāsām eva saviṣānirviṣabhedād dvidhatvam āha tāsām ityādi | evaśabdo ‘tra paratantroktasaviṣāṣṭajalaukāśaṅkānirāsārtham || Suśrutasaṃhitā, 56.*

<sup>47</sup> For the names *alagardā* and *gocandanā*, I am translating based on the pattern in the list of leech-types being named by appearance, and assuming an unspecified resemblance to *alagarda*, a large serpent, and *gocandana*, a type of sandalwood.

<sup>48</sup> *Mahagāda* could be translated as “great-club” or “great-bludgeon.” The recipe for this venom-fighting formulation is found in the *Suśrutasaṃhitā Kalpasthāna* 5.61–63a/b.

<sup>49</sup> *tatra saviṣāḥ kṛṣṇā karburā alagardā indrāyudhā sāmudrikā gocandanā ceti | tāsū aṅjanacūrṇavarṇā pṛthuisirāḥ kṛṣṇā varmimatsyavadāyatā chinnonnatakuṣiḥ karburā romaśā mahāpārśvā kṛṣṇamukhī alagardā indrāyudhavādūr dhvarājibhiḥ citrā indrāyudhā iṣad sitapītikā vicitrapuṣpākṛticitrā sāmudrikāḥ govṛṣṇānavadadhobhāge dvidhābhūtākṛtir aṅmukhī gocandaneti | tabhir daṣṭe puruṣe daṃṣe śvayathur atimātram kaṇḍūr mūrchā jvaro dāhaśchardirmadaḥ sadanam iti liṅgāni bhavanti | tatra mahāgadāḥ*

[Dalhana]: In order to prevent the nourishing and application of venomous leeches and for the purpose of treatment in the case of misfortune when applied because of mistake or [leeches] themselves adhering—mentioning them by name, he says, “therein venomous leeches,” etc. He says “among them, collyrium,” etc. to illustrate their form. Collyrium [means] eye-salve; “broad-headed” [means] large-headed. *Varmi* fish has the appearance of a snake, others say red fish; [having a] “segmented-protruding abdomen” [means] in some places a segmented abdomen, in some places an elevated abdomen. “Hairy” [means] due to wrinkliness the leech appears as if covered with hair. “Rainbow” colored, variegated, the sense is adorned. “Variegated with the appearance of brilliant blossoms” is variegated because of white spots in various locations. [Having the] “appearance of being twofold on the lower part like the scrotum of a bull” [means] like the testicles of a bull, having a form that has become twofold, on the lower part. He says, “bitten by these,” etc. explaining the complications (*upadrava*)<sup>50</sup> of venom in the case of their bite. The word “excessive” is connected individually with itching, etc. “Intoxication” [means] as if intoxicated by the betel-nut, “fatigue” [means] exhaustion of the body. He says “in that case, *mahāgada*,” etc. to explain the treatment in the case of venom in their bite. There, in the case that of poison, *mahāgada* is mentioned in the *Kalpasthāna*: “*trivṛt* and *viśalya*, *madhuka*, two (types of) *haridrā*.”<sup>51</sup> “Treatments of drinking, smearing, and nasal oleation, etc.,” because of the word “etc.” *mahāgada* is to be applied in treatments such as sprinkling, bathing, etc. [The bite of] “rainbow,” etc., is “incurable,” not able to be treated. The symptom of its bite should be known like the knowledge of the poison-force (*viśavega*) of the incurable snake bite.<sup>52</sup> Or others say, due to fully expressed symptom of swelling, etc., and because of the occurrence of signs of impending death (*ariṣṭa*), since there is no pacification even by applying *mahāgada*, the knowledge of its symptoms is necessary.<sup>53</sup>

*pānālepananasyakarmādiṣūpayojyaḥ | indrāyudhādaṣṭamasādhyam | ityetāḥ saviṣāḥ sacikitsitā vyākhyātāḥ || (SS Sū 13.11)*

<sup>50</sup> In Āyurvedic treatises, *upadrava* is a technical term meaning “supervenient disease.” Here I take it in the sense of a complication resulting from leech-venom.

<sup>51</sup> Here, *haridrā* is in the dual *haridre* so we can take the meaning as two varieties of *haridrā* (turmeric), *haridrā* and *daruharidrā*. The latter variety of turmeric is dark, orange, and round.

<sup>52</sup> The symptoms and treatments of the seven successive *viśavegas*, effects of poison, are described in *Suśrutasamhitā Kalpasthāna* chapter 5.

<sup>53</sup> *saviṣāṇām poṣaṇāvācāraṇaṇiṣedhārthaṃ pramādatas tv avacāritānām svayaṃ vā lagnānām vyāpac cikitsārthaṃ nāmnā nirdeśaṃ kurvann āha tatra saviṣā ityādi | tāsām ākṛtiṃ nirdeṣṭum āha tās v aṅjanetyādi | aṅjanaṃ kajjalaṃ pṛthuśirā mahāmastakā | varmimatsyaḥ sarpākāraḥ anye rohitamatsyam āhuḥ chinnonnatakukṣir iti kvacic chinnakukṣiḥ kvacid unnatakukṣiḥ | romaśeti valiyuktatvād romāvataeva pratibhāti | indrāyudhaṃ śakradhanuḥ citrā citritā maṅḍitety arthaḥ | vicitrapuṣpākṛticitrete nānāsamsthānadhavalabinducitrā | govṛṣaṇavadadhobhāge dvidhābhūtākṛtir iti vṛṣabhāṇḍa ivādhobhāge dviprakārabhūtākṛtiḥ | tāsām daṃśe viṣopadravaṃ nirdeśann āha tābhiraḥ daṣṭe ityādi | atimātraśabdāḥ kaṇḍvādibhiḥ saha prayatekaṃ saṃbandhyate | madāḥ pūgaphaleneva mattatā | sadanamaṅgaglanīḥ | tāsām daṃśaviṣe cikitsāṃ vaktum āha tatra mahāgada ityādi | tatra tasmin viṣe mahāgadaḥ ‘trivṛdviśalye madhukaṃ haridre’ (k. a. 5) ityādinā kalspsthānoktaḥ | nasyakarmādiṣv ity atrādiśabdāt pariṣekāvagāhādiṣu yojyaḥ | indrāyudhetyādi asādhyam asādhanārham | taddaṃśaliṅgaṃ tv asādhyasarpadaṣṭaviṣavegaviṣṇānavad veditavyam anye tu śvayaśvādīnām saṃpūrṇaliṅgatvād ariṣṭādy upapatter mahāgadāvācāraṇenāpy anupaśāntes talliṅgajñānam ity āhuḥ || Suśrutasamhitā, 56.*

Hence, the non-venomous leeches are called “tawny” (*kapilā*), “coppery” (*piṅgalā*), “pointed-mouth” (*śaṅkumukhī*), “mousy” (*mūṣikā*), “white lotus-mouth” (*puṇḍarīkamukhī*), and “*sāvarikā*.” Among them, the mung bean colored “tawny” is glossy on the back, with two sides as if colored with red arsenic, “coppery” is somewhat red, having a round body, reddish brown, and moves quickly, “pointed-mouth” has a long very sharp mouth, is quick-drinking, [and] liver-colored, “mousy” has the form and color of a mouse and bad smell, “white lotus-mouth” is mung bean-colored, curved like a lotus, and having a mouth like a lotus, and “*sāvarikā*” is oily, having the color of a lotus-leaf, measuring 18 thumb-widths, and it is for animals. Thus, the non-venomous leeches are described.<sup>54</sup>

[Dalhaṇa]: He says, “hence,” etc. describing the names of the non-venomous leeches for the purpose of use. He says “among them” etc. explaining them thus, with characteristics. “Mung bean colored” [means] the color of green mung. Coppery [means] reddish brown. “Moves quickly” [means] going quickly. “Liver-colored” [means] the blue-red colored. “The form and color of a mouse” [means] having the form of a mouse and having the color of a mouse, that is the sense. “Mouth like a lotus” [means] mouth spread open like a lotus. He says, “And it,” etc. with the object of “*sāvarikā*.” “For animals” [means] for elephants, horses, etc., again, not of humans.<sup>55</sup>

Their places of origin (*kṣetra*) are in Yavana, Pāṇḍya, Sahya, Pautana etc.<sup>56</sup> There, they

<sup>54</sup> *atha nirviṣāḥ kapilā piṅgalā śaṅkumukhī mūṣikā puṇḍarīkamukhī sāvarikā ceti | tatra manaḥśilārañjitābhyām iva pārsvābhyām prṣṭhe snigdhamudgavarṇā kapilā kiṃcid raktā vṛttakāyā piṅgā 'sugā ca piṅgalā yakṣvarṇā śīghrapāyini dīrghatīṣṇamukhī śaṅkumukhī mūṣikākṛtivarṇā niṣṭagandhā ca mūṣikā mudgavarṇā puṇḍarīkatulyavaktrā puṇḍarīkamukhī snigdha padmapatravarṇā 'ṣṭādaśāṅgulapramāṇā sāvarikā sā ca paśvarthe ity etā aviṣā vyākhyātāḥ || (SS Sū 13.12)*

<sup>55</sup> *upādānārthaṃ nirviṣāṇāṃ nāmāni nirdiśann āha athetyādi | tā eva lakṣaṇair nirdiśann āha tatreytādi | mudgavarṇā haritamudgavarṇā | piṅgalā kapilā | āsugā śīghragāminī | yakṣdvarṇā nīlalohitavarṇā | mūṣikākṛtivarṇeti mūṣikākṛtir bhūṣikavarṇā cetyarthaḥ | puṇḍarīkatulyavaktreti padmavadvistīrṇamukhī | sāvarikāyā viṣayam āha sā cetyādi | paśvarthe hastyśvādīnām arthe na punar manusyāṇām || Suśrutasaṃhitā, 56–57.*

<sup>56</sup> As noted in Chapter Five, *yavana* is the Sanskrit word for “Ionia” and in the early first millennium it was used to refer to the Greeks and their region. See Mitra, “The Geographical Data of the Astangasangraha,” 162. For a discussion of the term in relation to religions sectarianism in medieval India see Thapar, “Imagined Religious Communities?” 223.

This is the only attestation of the term “*yavana*” in the edition of the *SS* used here. In both the *CS* Ci 30.316 and *AS* Sū 7.231, the term *yavana* is used in a discussion of *deśasātmya*, “wholesomeness” in relation to geographical location. In the *CS*, the Yavanas are characterized as similar to the Bāhlikas (possibly Bactrians acc. to Mitra), Pahlavas (Parthians), Cīnas (Chinese), Śūlikas (Sogdians?), and Śakas (Scythians), as these peoples are habituated to meat, wheat, *mādhvika* (an alcoholic drink), weapons, and fire. The *AS* passage is identical.

*bāhlikāḥ pahlavāścīnāḥ śūlikā yavanāḥ śakāḥ | maṃsagodhūmamādhvikaśastravaiśvānarocitāḥ || (CS Ci 30. 316)*

The geographical reference to the excellence of non-venomous leeches coming from *yavana* gestures to the possibility of a trade in leeches, or spread of information about the efficacy of leeches, from different places across South Asia and beyond. Given that we know the Greeks had a contemporaneous practice of leech therapy (see section 1 of this chapter) and that Gandhara, in the

are exceedingly large bodied, strong, fast sucking, voracious, and non-venomous.<sup>57</sup>

[Dalhaṇa]: He names the well-known habitats of non-venomous leeches, “their,” etc. Yavana [means] the place of the Turks. Pāṇḍya [means] a region in the southern direction. Sahya [means] a specific mountain on the far shore of the Narmadā.<sup>58</sup> Pautana [means] the region of Mathurā. What kind of leeches are in the fields of Yavana, etc., he says “there,” etc. Some don’t read the fields (of) Yavana, etc. Why? They say, because of poisonous leeches’ origination from the putrefaction caused by poisonous *kīṭa*, etc. and because of non-poisonous leeches’ origination from the putrefaction of lotus and waterlily, etc. Therefore, it is improper to mention Yavana, etc. as their place of origin.<sup>59</sup>

Therein, venomous leeches arise in the rotting of venomous fish, insects, and frogs (in their) urine and feces, and in dirty water. Non-venomous leeches arise in the rotting of *padma* (lotus), *utpala* (blue-lotus), *nalina*, *kumuda*, *saugandhika*, *kuvalaya* (red lotus), *puṇḍarīka* (white-lotus flower), and *śaivala* (duck-weed), and in clean water.<sup>60</sup>

And here it is (a verse summary):<sup>61</sup>

They (non-poisonous leeches) dwell in fragrant water-filled fields, **not behaving confusedly (*saṃkīrṇacārini*)**, and are not happy dwelling in mud.<sup>62</sup>

[Dalhaṇa]: Here, he says, “therein venomous,” showing the state of poisonousness and non-poisonousness leeches arising from poisonous rotting and dirty water and non-poisonous rotting and clean water, respectively. Rotting [means] putrid state. “In dirty” [means] in filthy. “*Padmotpala*” [means] the slightly (*iṣat*) white lotus, “blue-lotus”

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northwestern frontier of South Asia, was a place of robust interaction and blending of Greek and South Asian cultures, further comparative study of leeching and bloodletting philosophies and practices across these geographical and cultural spaces is warranted.

<sup>57</sup> *tāsām yavanapāṇḍyasahyapautanādīni kṣetrāṇi teṣu mahāśarīrā balavatyaḥ śīghrapāyinyo mahāśanā nirviṣāś ca viśeṣeṇa bhavanti* || (SS Sū 13.13)

<sup>58</sup> The Sahya mountains are located in the Western Ghats in present day Kerala, suggesting that Dalhaṇa’s commentary was written in north India, north of the Narmada River. Three of the four locations specified are in Southern India.

<sup>59</sup> *nirviṣāṇām praśastāni kṣetrāṇy āha tāsām ityādi | yavanaḥ taruṣkadeśaḥ pāṇḍyo dakṣiṇadigvibhāgīyo deśaḥ sahyo narmadāyāḥ pāre parvataviśeṣaḥ pautano mathurāpradeśaḥ | yavanādikṣetreṣu kīḍrśā jalaukā bhavantīty āha teṣv ityādi | kecid yavanādīni kṣetrāṇi na paṭhanti kutaḥ saviṣāṇām saviṣakīṭādikothasya kṣetratvāt nirviṣāṇām tu padmotpalādikothasya kṣetratvād yuktaṃ yavanādikṣetrakathanam iti vadanti* || *Suśrutasaṃhitā*, 57.

Dalhaṇa is saying that some find the specification of locations inappropriate because the important distinguishing factor in the origin of venomous and non-venomous leeches is attributed to their habitat, not their geographical region of origin.

<sup>60</sup> *tatra saviṣamatsyakīṭadarduramūtrapurīṣakothajātāḥ kaleṣv ambhasu ca saviṣāḥ | padmotpalanalinakumudasaugandhikakuvalayapuṇḍarīkaśaivalakothajātā vimaleṣv ambhaḥsu ca nirviṣāḥ* || (SS Sū 13.14)

<sup>61</sup> *bhavati catra* |

<sup>62</sup> *kṣetreṣu vicaranty etāḥ salilādhyasugandhiṣu | na ca saṃkīrṇacārīnyo na ca pañkeśayāḥ sukhāḥ* || (SS Sū 13.15)



[means] the slightly blue lotus,<sup>63</sup> “*nalinaṃ*” [means] slightly red, “*kumuda*” is called ‘*kuiā*’ in common language, “*saugandhika*” is named *gardabha*-flower, extremely fragrant, radiant during the moon’s rising, *kuvalaya* is a red lotus, *puṇḍarīka* [means] extremely white lotus, *saivala* [means] *saivāla*. [They] “arise in rotting” meaning of those arisen from a rotting state. He says, “and here it is,” here, the verse is a summary of the birth places. “They” means the non-venomous leeches described before. “In fragrant” [fields, means] in excellent smelling [fields]. “Not behaving confusedly” [means] they do not eat incompatible food such as poison, etc. because of the state of eating *śaivala*, etc. And they do not sleep in the mud because of the state of laying in the grass, water and leaves. “Happy” [means] because of the causality of happiness, the sense is, they are acting happy.<sup>64</sup>

Their capture is with moist hide or one should take them by other means.<sup>65</sup>

[Ḍalhaṇa]: He says, “their capture” etc. showing their means of capture. And their capture is in the fall season according to another treatise. “Or by other means” [means] or with parts such as shank, etc. smeared with butter, ghee, milk, or a piece of flesh of the meat of a freshly killed animal.<sup>66</sup>

Then having poured mud and water from a pond or lake in a new large pot, one should place them (there). And **for their food** one should offer duckweed, dried flesh, and aquatic bulbs having reduced to a powder. **For the purpose of their bed**, aquatic grasses and leaves. And after every three days one should give them additional water and food. And **after seven nights one should transfer them to another pot.**<sup>67</sup>

[Ḍalhaṇa]: He says, “Then... them,” etc. showing the nurturing (of leeches). Having

<sup>63</sup> Here the commentary does not accord with the version of *SS* in the published text. Although the list of plants in the habitat of non-venomous leeches reads *padma*, *utpala*, *nalina*, etc., Ḍalhaṇa glosses *padmotpala* as a separate term, and then *utpala*, suggesting his manuscript varied from the edited and published version used here. The editor does not provide alternate readings for either the text or commentary of this passage.

<sup>64</sup> *idānīm saviṣanirviṣakothakaluṣanirmalajalotpannānām jalaukasām saviṣanirviṣatvaṃ darśayann āha tatra saviṣetyādi | kothaḥ pūtibhāvah | kaluṣeṣu malineṣu | padmotpaletyādi padmamīṣacchuklam utpalamīṣannīlam nilanamīṣadraktaṃ kumudaṃ ‘kuiā’ iti loke saugandhikaṃ gardabhapuṣpābhīdhānam atyantasurabhi candodayavikāśi kuvalayaṃ raktotpalam puṇḍarīkam atīśvetapadmaṃ śaivalam śavālam kothajātā iti eṣām pūtibhāvajātāḥ | idānīm kṣetrasaṃgrahaślokaṃ āha bhavati cātretyādi | etā iti pūrvoktā nirviṣā jalaukāḥ sugandhiṣu śobhanagandhiṣu | na ca saṅkīrṇacāriṇyā iti na viṣādiviriddhāhārabhujāḥ śaivalādyaśanātvāt | na ca paṅke svapanti tṛṇodakapatraśayanātvāt | sukhā iti sukhahetutvāt sukhacāriṇyā ityarthah || Suśrutasaṃhitā, 57.*

<sup>65</sup> *tāsām grahaṇam ārdracarmanā anyair vā prayogair grhṇīyāt || (SS Sū 13.17)*

<sup>66</sup> *tāsām grahaṇopāyaṃ darśayann āha tāsām grahaṇam ityādi | grahaṇam cāsām śaratkāle tantrāntaravacanāt | anyair vā prayogair iti sadyohatajantumāṃsapeśīnavanītaghṛtakṣīrādyabhyaktajāṅghādyavayavair vā || Suśrutasaṃhitā, 57.*

<sup>67</sup> *athainām nave mahati ghaṭe sarastadāgodakapaṅkam āvāpya nidadhyāt bhakṣyārthe cāsām upaharec chaivalam vallūram audakāṃś ca kandāṃś cūrṇīkrtya śayyaarthaṃ tūṇam audakāni ca patrāṇi tryahāt tryahāc cābhyo’nyaj jalam bhakṣyaṃ ca dadyāt saptarātrāt saptarātrāc ca ghaṭam anyam saṃkrāmayet || (SS Sū 13.17)*

poured [means] having put in. One should place [means] one should situate. Dried flesh [means] dried meat. One should transfer [means] one should move.<sup>68</sup>

And here it is, (a verse summary):<sup>69</sup>

Those (leeches) that are large, having a thick-middle, hideous, broad, having slow movements, are not to be taken. They drink little, are poisonous, and are not recommended.<sup>70</sup>

[Ḍalhaṇa]: He says, “And here it is,” etc. showing the unsuitable ones among them.

Hideous [means] those having a disagreeable appearance, broad [means] spread out, having slow movements [means] slow moving, not recommended [means] not praised.<sup>71</sup>

Now, having caused the patient—with a disease curable by leeches—to sit or lay down, one should dry their area [to be treated], with clay and dried cow dung powders if there is no wound. And having taken them (leeches), bodies smeared with water mixed with a paste of mustard and turmeric **having recognized those relieved from fatigue, resting for a while in the middle of a vessel of water, one should seize the diseased area with them. Having covered [the leech] with soft, clean, and moist cotton cloth one should uncover the mouth. For those not taking hold, one should give a drop of milk or a drop of blood or one should make incisions. Only if, even so, it does not grab hold, then one should take another.**<sup>72</sup>

[Ḍalhaṇa]: He says, “Now,” etc., pointing out their application. Having laid down [means] having caused to lay. “No wound [means] without a wound, but when there is a wound, they take hold only because of odor and moisture. Or, when there is a wound, there is a great increase in the wound by means of drying. “Vessel of water” [means] a pot of water. Some commentators read, in the place of “vessel of water,” “dwelling in the middle of the pot,” “Vessel” [means] a full pot of water. Here, “diseased” [means] the location of the disease or the location of the *doṣa*. Ślakṣṇa, etc. Cotton [means] cotton, cotton without seeds, “cloth” [means] fabric. “One should uncover (the mouth)” [means] one should cover near to (the mouth).<sup>73</sup>

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<sup>68</sup> *poṣaṇaṃ darśayann āha athainām ityādi | āvāpya prakṣipyā | nidadyāt syāpayet | vallūraṃ śuṣkamāmsam | saṃkrāmyet saṃcārayet || Suśrutasaṃhitā, 57.*

<sup>69</sup> *bhavati cātra |*

<sup>70</sup> *sthūlamadhyāḥ parikliṣṭāḥ pṛthvyo mandaviceṣṭitāḥ | agrāhiṇyo 'lpapāyinyaḥ saviṣāś ca na pūjitāḥ || (SS Sū 13.18)*

<sup>71</sup> *tāsvayogyā nidarśayann āha bhavanti cātretyādi | parikliṣṭā amanojñadarśanāḥ pṛthvyo vistīrṇāḥ mandaviceṣṭitā mandagāminyāḥ na pūjitā na ślāghitāḥ || Suśrutasaṃhitā, 57.*

<sup>72</sup> *atha jalaukovasekasādhyavyadhitaṃ upaveśya saṃveśya vā virūkṣya cāśya tam avakāśaṃ mṛdgomayacūrṇair yady arujaḥ syāt | gr̥hītās ca tāḥ sarṣaparajanīkalkodakapradigdhagātṛiḥ salīlāsarakamadhye muhūrtasthitā vigataklamā jñātvā tābhī rogaṃ grāhayet | ślakṣṇasūklārdrapicuprotāvacchannāṃ kṛtvā mukhaṃ apāvṛṇuyāt agr̥hṇantyai kṣīrabinduṃ śoṇitabinduṃ vā dadyāt śastrapadāni vā kurvīta yady evam api na gr̥hṇīyāt tadā 'nyāṃ grāhayet || (SS Sū 13.19)*

<sup>73</sup> *tāsāṃ avacāraṇaṃ uddiśann āha athetyādi | saṃveśya śāyayitvā | arujam avraṇaṃ savraṇe tu*

And when it fixes, having made (its) face like a horse's hoof and having bent upward the neck then one should know "it takes hold," and having set the grasping (leech), covered with a wet cloth, one should maintain it.<sup>74</sup>

[Dalhaṇa]: "When" etc. he states the indication of their grasping at the site of the wound. "It fixes," the sense is it sticks. "It takes hold," the sense is it pierces. "The grasping (leech)," the sense is taking blood. "Covered with a moist cloth" [means] thus, pleased, it drinks blood quickly. But by means of their own special capacity (*prabhāva*) leeches first drink only vitiated blood, just as a goose (*haṃsa*) drinks only milk from water mixed with milk.<sup>75</sup>

It is said, through manifestations of pain and itching on the bite, one should understand that [the leech] takes pure (*śuddha*) [blood]. One should remove [the leech] taking pure blood. **Now, if because of the smell of blood (*śoṇitagandha*), its mouth should not release, one should sprinkle it with sea-salt powder.**<sup>76</sup>

[Dalhaṇa]: He says, "pain," etc. showing the means of knowing, in reference to their (leeches') taking pure blood. "Pain" [means] pain because of wind (*vāyu*) arising from the destruction of the red component of blood (*rakta dhātu*). Because of the destruction of pure blood, here, itching would not be caused by *kapha* (*śleṣman*); some do not construe the word "itching." **But others say, "because of somic (*saumya*) *kapha dhātu*'s destruction of the fiery (*āgneya*) red component of blood, because of the increase, promoted by moisture in the mouth of the leech, itching arises."** But others read, "with manifestations of pain and itching of the biting-fly." And they explain biting-fly is a gadfly; that which is made by a biting-fly is pain [meaning] pain; on that pain, whatsoever itching, when there would be that type of itching, then one should understand the taking of pure blood. He says, "pure" etc. What should one do in that case? One should sprinkle [means] one should sprinkle with powder. **Or others read, "with desire for blood" (*śoṇitagardhena*) [meaning] with an inclination for blood (*abhikāṅkṣyā*), and they say, "by means of smell" (*gandhena*) is not a suitable reading. Why?**

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*gandhakledābhyām eva grhṇantiḥ athavā rujāvati virukṣaṇena rujātivrddhiḥ | salilasarakam jalapātram kecit salilasarakasthāne 'sarakamadhye cāriṇyaḥ' iti paṭhanti sarakam jalapūrṇapātram | rogo 'tra rogādhiṣṭhānaṃ doṣādhiṣṭhānaṃ vā | ślakṣṇetyādi | picuḥ tūlaṃ bijahīnaḥ kārpāsaḥ protaṃ vastram | apāvṛṇuyāt ācchādayet || Suśrutasaṃhitā, 57.*

The meaning of *ācchādayet ā + √chad* is to cover or conceal. I am taking the verb with *upasarga ā* preceded by an accusative to mean "near to," meaning that one should cover near to, but not on the mouth. See Monier-Williams, *Sanskrit-English Dictionary*, 132 and 126.

<sup>74</sup> *yadā ca nivisate 'śvakhuravadānaṃ kṛtvonnāmya ca skandham tadā jānīyād grhṇātīti grhṇantīm cādravastrāvachannām kṛtvā dhārayet || (SS Sū 13.20)*

<sup>75</sup> *rogādhiṣṭhāne tāsāṃ grahaṇalakṣaṇam āha yad etyādi nivisate lagaṭītyarthaḥ grhṇāti vidhyatītyarthaḥ | grhṇantīm śoṇitam ādadānām ityarthaḥ | ādravastrāvachannām iti itthaṃ sukhītā śīghraṃ raktam pibati jalaukāstvātmaprabhāveṇa prāgduṣṭam eva raktam pibanti yathā dugdhamiśritodakāddhamso dugdham eva pibatītyarthaḥ || Suśrutasaṃhitā, 57.*

<sup>76</sup> *damṣe todakaṇḍuprādurbhāvair jānīyāc śuddham iyam ādatta iti śuddham ādadānām apanayet atha śoṇitagandhena na muñcen mukham asyāḥ saundhavadcūrṇāvakiret || (SS Sū 13.21)*

**Because leeches do not have a faculty of smell.<sup>77</sup>**

Now, [the leech that has] fallen off, having a body smeared with rice chaff [and] mouth anointed with oily salt, the tail of which has been grabbed with the fingers and thumb of the left hand, one should rub lengthwise very softly in the correct direction up to the mouth with the fingers and thumb of the right hand. One should purge [the leech] to that extent, so it is said, **there are signs of one sufficiently purged. The one sufficiently purged and then placed into vessel of water, being desirous for eating, should move. Which one sitting does not move, that is one who has vomited insufficiently. That one should again be appropriately purged. The incurable illness of [a leech] who has vomited insufficiently is called *indramada*. Here, as before, one should situate [the leech] who has purged sufficiently.**<sup>78</sup>

[Ḍalhaṇa]: Here, “[the leech that has] fallen off,” etc. He tells of [the leech that has] fallen off for the regulation of the removal of blood. “Rice chaff,” the sense is covering [with] “minute particles.” “Correct direction” [means] along the (digestive) tract (*anukūla*). “One should rub” [means] one should wipe, “up to the mouth” [means] as far as the mouth, that is the sense. Telling the characteristics of a sufficiently purged leech, “sufficiently,” placed into a vessel of water [means] the (leech) placed into the shallow dish full of water.<sup>79</sup> “It should move” [means] it should move around. He tells the signs of one who has purged insufficiently, “Which one sitting,” etc. It sits [means] it sinks (*nimajjati*). “Of [a leech] who has vomited insufficiently,” he tells the distinguishing characteristic of the ailment due to the application of the insufficiently purged [leech]. According to some, “But because of the non-mention of the symptoms of this disease in the treatise, it should not be read.”<sup>80</sup> He says, “[the leech] who has purged sufficiently.”

<sup>77</sup> *tāsām viśuddharaktādāne vijñānopāyaṃ darśann āha todety ādi | todo vyathā sa dhātuḥsayotpannena vāyunā | śuddharaktakṣayāt śleṣmakāryaṃ kaṇḍūr iha nasyād iti kecīt kaṇḍūgrahaṇaṃ na kurvanti anye tu vadanti āgneyaraktadhātuḥsayāt kaphadhātoḥ saumyasya jalaukāmukhakledavardhitasya vṛddheḥ kaṇḍūsambhava iti anye tu daṃśatodakaṇḍūprādurbhāvaiḥ iti paṭhanti | vyākhyāyanti ca daṃśo vanamakṣikā daṃśena krto yas todo vyathā tasmin tode yādṛśī kaṇḍūs tādṛśī kaṇḍūr yadā syāt tadā śuddharaktādānaṃ jānīyāt | tatra kiṃ kuryād ity āha śuddham ity ādi | avakiret avacūrṇayet | anye tu śonitagardhena iti paṭhanti gardhenābhikāṅkṣyā vadanti ca gandhena ity ayuktaḥ pāṭhaḥ | kutaḥ yāsmāḥ jalaukasām gandhendriyaṃ nāstīti || Suśrutasaṃhitā, 58.*

<sup>78</sup> *atha patitām taṇḍulakaṇḍanapradigdhagātīm tailalavaṇābhyaktamukhīm vāmahastāṅguṣṭhāṅgulibhyām grhītapucchām dakṣiṇahastāṅgulibhyām śanaiḥ śanair anulomam anumārajayed āmukhād vāmayet tāvad yavāt samyagvāntaliṅgānīti | samyagvāntā salilasarake nyastā bhoktukāmā satī caret | yā sīdatī na ceṣṭate sā durvāntā tām punaḥ samyagvāmayet | durvāntāyā vyādhir asadhya indramado nāma bhavati | atha suvāntām pūrvavat sannidadhyāt || (SS Sū 13.22)*

<sup>79</sup> Instead of *salilasarake nyastā* as in our version of *Suśrutasaṃhitā*, Ḍalhaṇa glosses the two terms in compound *salilasarakanyastā*. This could be a variant reading or scribal error. Regardless, the meaning is the same.

<sup>80</sup> This indicates that other versions of the *Suśrutasaṃhitā* read by commentators known to Ḍalhaṇa did not mention *indramada*. As we have seen above, the published version of Cakrapāṇidatta’s *Bhānumatī* commentary on the *Suśrutasaṃhitā Sūtrasthāna* (the only surviving portion of the commentary) passage does attest variant readings of the *Suśrutasaṃhitā*. However, that is not the case with the case in point—his version contains the same mention of *indramada*. See *Suśrutasaṃhitā Sūtrasthānam with Bhānumatī Commentary*, 98.

What should the one who has vomited well do? “As before” means, just like the section beginning, “in a new large pot.”<sup>81</sup>

Having considered, because of the proper (flow) or improper (flow) of blood, inunction with hundred-times purified ghee, or covering it with cotton, one should rub the wounds from the leech with honey, one should sprinkle or bind with cold water, one should smear with astringent, sweet, oily, and cold ointments.<sup>82</sup>

[Dalhaṇa]: He says, “of blood,” etc., explaining the subsequent actions with respect to bloodletting. “Proper (flow)” (*yoga*) [means] appropriate flow. “Improper (flow)” (*ayoga*) is different from proper flow. It is threefold, because of division into deficient application (*hīnayoga*), excessive application (*atīyoga*), and incorrect application (*mīthyayoga*). In the case of proper application, inunction (*abhyāṅga*) with a hundred-[times]-purified ghee or covering with a cotton anointed with a hundred-[times]-purified ghee.<sup>83</sup> What should be done in the case of deficient application? He says, “one should rub” [meaning] one should agitate the wounds from the leech with honey, in order to cause flow. What is to be done in the case of excessive application? He says, “one should sprinkle or bind with cold water.” Sprinkling with cooling water and binding of the mark of leech’s mouth is for the purpose of stopping the blood. He says, “astringent,” etc., [giving] the remedy in the case of incorrect application. One should smear [means] one should anoint. Here, astringent ointment is with the aim of purity of the remaining vitiated blood, the ointment with sweet (substances) is for the purpose of staunching the flow of non-vitiated blood. Or, others gloss, “Sprinkling with cold water has the purpose of removing complications, such as fainting. Rubbing with honey and anointing with astringent, etc. (ointment) are for the purpose of healing.” Also, one should consider<sup>84</sup> the flowing of blood according to the measurement of the strength of the person, or the measurement of the strength of the *doṣa*, or the measurement of the strength of disease arisen through *vāta*, etc., or to what extent there is the proper purification of blood as far as the abode of disease. For instance, when the abode of disease is smaller, little blood is to be removed, when it is big, again more, this is said. And bloodletting is by the measurement of *pala*, etc., and *pala* here is by means of a *māṣaka* having the measure of

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<sup>81</sup> *patitāyā rudhirāpahaṇavidhānāyāha atha patitām ityādi | taṇḍulakaṇḍanaṃ guṇḍanaṃ ‘kaṇā’ ityārthaḥ | anulomam anukūlam anumārjayet proñchayet āmukhād iti mukhaṃ yāvad ityārthaḥ | samyagvāntaligāny āha samyag ityādi salilasarakanyas tā jalapūrṇaśarāve ’rpitā | caret gacchet | durvāntāyā liṅgāny āha yā sīdatityādi | sīdati nimajjati | durvāntāvacārāvyādhiṣeṣam āha durvāntāyā ityādi | “asya tu vyādheḥ śāstre lakṣaṇānirdeśān paṭhanīyaḥ” ity eke | atha suvāntā kiṃ kāryety āha suvāntām iti | pūrvavad iti yathā ‘nave mahati ghaṭe’ ity ādau || Suśrutasaṃhitā, 58.*

The final comment is in reference to SS Sū 13.17, although this prose section technically begins with “*athaināṃ nave mahati ghaṭe.*”

<sup>82</sup> *śonitasya yogāyogānavekṣya śatadhautagḥṛtābhyāṅgaḥ tatpicudhāraṇaṃ vā jalaukovraṇān madhunā ’vaghāṭayet sītābhir adbhiḥ pariṣecayet badhnīta vā kaṣāyamadhurasnigdhaśītaiḥ ca pradehaiḥ pradīhyād iti || (SS Sū 13.23)*

<sup>83</sup> *ākta* is the *bhūte kṛdanta* of √*añj*.

<sup>84</sup> The literal translation here of the gerund form *samīkṣya* should be “having considered,” with the meaning that one should first consider these factors and then assess the state of the “*yoga*” of bloodletting. Although, it loses the temporal aspect of the meaning, I am translating this in the optative sense in order to convey the intended prescriptive meaning and to construe a complete English sentence.

seven *guñja*-fruit when ripe, and also a *prastha* is those having thirteen and a half *palas*. One *prastha* of blood is to be released from each one of the veins, and that after every two days. And here, a *prastha* is the largest measure. The intermediate measure is the half-*prastha*, and here, the half-*prastha* is six *palas* more than a *karṣa*. That also, is to be let, after two days. The lowest measure is the *kuḍava*, and here, a *kuḍava* is three *palas* more than eight *māśas*. This also is to be released every two days.<sup>85</sup> This is the well-known course of action.<sup>86</sup>

And here it is, (a verse summary):<sup>87</sup>

One who knows the fields, taking, types, nurturing, and application of leeches, he will conquer diseases curable by them.<sup>88</sup>

Thus (ends) the thirteenth chapter in the *Sūtrasthāna* of the *Suśrutasaṃhitā*, called, “On the application of leeches.”<sup>89</sup>

[Ḍalhaṇa]: Here, he tells the summary verse, “and here it is,” etc. “Fields” [means] the places of origin of poisonous leeches, “therein, venomous insects,” etc., of non-poisonous leeches “leaves of *padma* and *utpala*,” etc. “Taking,” “capture of them by means of moist hide,” etc. Categories of venomous leeches, “blue-black, prickly,” etc., of non-

<sup>85</sup> There were two widespread systems of measurement (*mānam*) in use around the time of compilation of the *Suśrutasaṃhitā*, named after two regions, *māgadha* (Magadha) and *kāliṅga* (Kaliṅga). According to Ḍalhaṇa’s commentary on *Suśrutasaṃhitā Cikitsāsthāna* 31.7, Suśruta’s definition of one gold *māśaka* (*suvarṇamāśaka*) as equaling twelve beans of black gram (*dhānyamāśa*) follows the system preferred in Magadha. | *tatra dvādaśa dhānyamāśā madyamāḥ suvarṇamāśaka iti māgadhaṇumatam suśrutācāryasaṃmatam* |

The sense is that an appropriate quantity of blood corresponding to one of these measures—assessed based upon consideration of the factors mentioned above—is to be let every two days.

<sup>86</sup> *śoṇitāvasecane uttarakarmāṇi nirdīśann āha śoṇitasyetyādi | yogah samyaksruti ayogo yogād anyah sa trividho hīnātimithyāyogabhedāt | tatra yoge śatadhautaghṛtābhyaṅgaḥ śatadhautaghṛtāktapicudhāraṇam va | hīnayogo kiṃ kuryād ityāha jalaukovraṇān madhunā avaghaṭṭayet cālayet srāvaṇārtham | atiyoge kiṃ kuryād ityāha śītābhir adbhiś ca pariṣecayed badhnīta veti śītalajalapariṣecanam bandhanam ca jalaukomukhapadasya raktasthityartham | mithyāyoge upakramam āha kaśāyetyādi | pradihyāt limpet | atra kaśāyapradehaḥ śeṣaduṣṭaraktaprasādārtham madhuraiḥ pradehaḥ srutāduṣṭaraktavardhanārtham anye tu “mūrccādhya upadravaparihārārtham śītalajalasekaḥ madhunā ’vaghaṭṭanam kaśāyādilepanam ca sandhānārtham” iti vyākhyānanti | śoṇitasrāvaṇam api puruṣabalapramāṇād doṣabalapramāṇād vā vātādijanitavyādhibalapramāṇād vā yāvac choṇitasya samyaksuddhir bhavati tāvad vā rogāśayaṃ vā samīkṣya | tad yathā alpīyasi rogāśaye ’lpam raktam āharaṇīyam mahati punar bahv iti | raktamokṣaṇam ca palādimānena palam cātra pakvasaptaguñjāphalapramāṇamāśakeṇa tāny api cārhdhatrayodaśapalāni prasthaḥ raktaprasthas caikaikasasyāṃ sirāyāṃ mokṣaṇīyaḥ tad api dvābhyaṃ divasāmyāṃ prasthas cātrottamamātrā madhyamā mātrā ’rdhaprasthaḥ ardhaprasthas cātra karṣādhiḥkaṣaṭpalāni etad api dvābhyaṃ ahobhyaṃ srāvaṇīyam adhamamātrā kuḍavam kuḍavaś cātrāṣṭamāśādhikāni trīṇi palāni idam api dinadvayena mokṣaṇīyam iti prasiddhaḥ karmamārgaḥ || Suśrutasaṃhitā, 58.*

<sup>87</sup> *bhavati cātra* |

<sup>88</sup> *kṣetrāṇi grahaṇam jātīḥ poṣaṇam sāvacāraṇam | jalaukasām ca yo vetti tatsādhyān sa jayet gadān || (SS Sū 13.24)*

<sup>89</sup> *iti suśrutasaṃhitāyāṃ sūtrasthāne jalaukāvacāranīyo nāma trayodaśo ’dhyāyah*

venomous leeches, “coppery, tawny,” etc. “nurturing” “in a new large pot,” etc. “Application,” “Now, the patient—with a disease curable by bleeding with leeches,” by the word “and” the post-treatment action, etc.<sup>90</sup>

## Conclusion

One of the central issues taken up in this chapter is the ways that leeches, as medical practitioners themselves, trouble available categories. Calling the leeches that engage in bloodletting in the clinic “medical practitioners” is not intended as a punny allusion, for in Old English there were two meanings for *læch*, “leech,” and “doctor.”<sup>91</sup> Nor is it a critique of the very specialized medical training undertaken by the Āyurvedic physicians I worked with in Kerala. Rather, it points to the critical and collaborative role that we have seen leech senses and sensibilities play in the course of practice.<sup>92</sup> Here, we think beyond Actor Network Theory and Latour’s foundational notion of “actants” as a recognition of the interactions of human and non-human agencies in a network.<sup>93</sup> Complicating a symmetrical network imaginary, Andrew Pickering’s “mangle of practice,” emphasizes human agency.<sup>94</sup> Pickering critiques Michel Callon and Latour for their flattening semiotic approach and instead insists on the uniqueness of human “intentionality.”<sup>95</sup> While a temporally contingent unfolding of agencies in practice is apt to what we have seen in the clinic, this privileging of human intentionality does not fully reflect the unfolding clinical intra-action of *jalaukāvacāraṇa*.

In analyzing leeches in *jalaukāvacāraṇa*, a troubling problem remains—leeches are not bush pumps, nor peanut paste, nor elementary particles, rather, they are complex living beings. Āyurveda is a medical practice chiefly concerned with the knowledge (*veda*) of life, or long life

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<sup>90</sup> *idānīm saṃgrahaślokaṃ āha bhavati cātretyādi | kṣetrāṇīti saviṣāṇām kṣetrāṇi ‘tatra saviṣakīṭa’ ityādi nirviṣāṇām ‘padmotpalapatra’ ityādi | grahaṇam iti ‘tāsām grahaṇam ādracarmanā’ ityādi | jātayah saviṣāṇām ‘kṛṣṇā karburā’ ityādi nirviṣāṇām ‘kapilā piṅgalā’ ityādi | poṣaṇam iti ‘nave mahati ghate’ ityādi | avacāraṇam iti ‘atha jalauko ‘vasekasādhyā’ ityādi cakārāt paścātkarmādi || Suśrutasaṃhitā, 58.*

In this summary section, the commentator is bookmarking the sections of the chapter for memorization. However, there are variations between the markers and the actual text of the printed version of the *Suśrutasaṃhitā* for example there is no “*patra*” in the section describing the rotting of *padma* and *utpala* from which non-venomous leeches arise (13.14), and it is not clear which *ca* (and) he is referring to in the phrase *cakārāt paścātkarmādi* unless it is (13.20) when the leech takes hold.

<sup>91</sup> These terms derived from Germanic and Middle Dutch, respectively. Kirk, *Leech*, 9.

<sup>92</sup> Ursula Münster uses the term “collaborative” to describe the work of humans and elephants in wildlife conservation in Wayanand, Kerala. Münster, “Working for the Forest: The Ambivalent Intimacies of Human–Elephant Collaboration in South Indian Wildlife Conservation.”

<sup>93</sup> One fundamental move defining Actor Network Theory (ANT) is the expansion of the “symmetry principle” from early Sociology of Scientific Knowledge (SSK)—that all culturally mediated means of establishing credibility are equally worthy of study—to a principle of “generalized symmetry,” extended to human and non-human actors, which Latour terms “actants.” This recognition grants agency to human and non-human actors, locating them in networks that constitute the “social” (in contrast to a method that understands scientists as operating in a social context). Latour, *Science in Action*, 84. On SSK, see Barnes and Bloor, “Relativism, Rationalism and the Sociology of Knowledge.”

<sup>94</sup> Pickering, “The Mangle of Practice: Agency and Emergence in the Sociology of Science.” The “mangle” is the radically reciprocal and emergent—in the sense of temporally contingent—relationship between human and material agency as it unfolds in scientific laboratories.

<sup>95</sup> Callon, “Some Elements of a Sociology of Translation”; Latour, *Science in Action*; Pickering, “The Mangle of Practice.”

(*āyus*), the term itself meaning “knowledge of life” or “knowledge of long life/lifespan.” In analyzing leeches as participants in a practice oriented towards the maintenance of life, what distinguishes them in the intra-action of *jalaukāvacāraṇa*, from, say, the *jātyādi kēram* essential to the clinic’s venous ulcer treatment? Or what renders them agentively distinct from the needles used for pricking (*pracchāna*)? In considering agencies in Āyurvedic practice, are there particular qualities that adhere in “life” in relation to human and non-human beings?

While the *Carakasamhitā* and the *Suśrutasamhitā*, are primarily concerned with knowledge of—and pertaining to—human beings, the *Carakasamhitā* construes a wider understanding of life as inseparably connected to sentience. Questions about the sense-abilities and sentience of different types of living beings is a subject actively taken up by both Ḍalhaṇa and Cakrapāṇidatta, and later treatises engage Āyurveda to treat beings such as elephants, horses, and trees. As Zimmerman points out in his discussion of the “sequence of foods” in Āyurvedic philosophy, the *Suśrutasamhitā*, when explaining the twofold classification of living beings (*loka*) as mobile (*jaṅgama*) and immobile (*sthāvara*), emphasizes humans’ place at the top: “Man is first, the rest are at his service (*tatra puruṣaḥ pradhānaṃ tasyopakaraṇaṃ anyat*).”<sup>96</sup> However, in his gloss to this passage (*SS Sū* 1.22) Ḍalhaṇa emphasizes that here, the term *puruṣa*, “man,” defined as the conjunction of the five elements with the self (*pañcamahābhūtaśarīrisamavāya*), indicates only humans, because elsewhere it can also mean animals.<sup>97</sup>

Implicating a broader mortal kinship, the *Carakasamhitā* provides a basis for an understanding of the knowledge of life, Āyurveda, as a “science” that gave rise to later works such as Pālkāpya’s *Hastāyurveda* (Elephant-Āyurveda) (later than *Suśrutasamhitā* and prior to twelfth-century CE) and Surapāla’s *Vṛkṣāyurveda* (Tree-Āyurveda) (eleventh- or twelfth-century CE).<sup>98</sup> The foundational explanation of *āyus* is found in *Carakasamhitā Sūtrasthāna* 1.42:

Life (*āyus*) is the conjunction of body (*śarīra*), sense faculties (*indriya*), mind (*sattva*), and self (*ātma*). It is called by the synonyms, “*dhārin*” (bearing), “*jivita*” (animating), “*nityaga*” (continually proceeding), and “*anubandha*” (binding).<sup>99</sup>

Explaining this passage, Cakrapāṇidatta clarifies that although body (*śarīra*) is usually understood to include the sense faculties, the latter are enumerated here for emphasis. We find this dynamic life-constituting conjunction reiterated and expanded upon a few verses later, in *CS*

<sup>96</sup> Zimmerman, *The Jungle and the Aroma of Meats*, 203.

<sup>97</sup> ... *yady apy atra pañcamahābhūtaśarīrisamavāyaḥ puruṣa iti sāmānyena puruṣaśabdena paśvādir api vācyāḥ tathāpi manuṣyajātir evātra puruṣaśabdenocyate ... Suśrutasamhitā*, 5.

<sup>98</sup> On the dating of *Hastāyurveda*, see Meulenbeld, *HIML*, 2A:574. On the dating of *Vṛkṣāyurveda* refer to Das, “Some Notes on *Vṛkṣāyurveda*,” 6.

<sup>99</sup> *śarīrendriyasattvātmasamyogo dhāri jivitam | nityagaś cānubandhaś ca paryāyair āyur ucyate || (CS Sū* 1.42)

Cakrapāṇidatta clarifies these synonyms as follows: “Bearing” [means] it supports the body, it does not allow the body to go to the state of putrefaction. “Animating” [means] it enlivens, it supports the vital winds. “Continually proceeding” [means] it goes constantly with the continual decay (*kṣaṇikatva*) of the body. Binding [means] life endures through the form of the union of the body etc. one [life] after another (*aparāpara*).

*dhārayati śarīraṃ pūtitāṃ gantuṃ na dadātīti dhāri | jivayati prāṇān dhārayatīti jivitam | nityaṃ śarīrasya kṣaṇikatvena gacchatīti nityagaḥ | anubadhnāty āyur aparāparaśarīrādisamyogarūpatayety anubandhaḥ | Carakasamhitā*, 8.



Sū 1.46–48, as a set of three:

This triad, mind, self, and body, is like a tripod. Because of the conjunction, the world stands; everything is situated there.

That (triad) is “*pumān*,” and that is sentient, and that is the understood subject of this knowledge (*veda*). Indeed, this knowledge is illuminated for that purpose.

The enumeration of substance (*dravya*) is ether etc., self, mind, time, space (*dis*). And matter with sense faculties is sentient (*cetana*), matter without sense faculties is insentient (*acetana*).<sup>100</sup>

This passage names the sentient triad, “*pumān*,” quite literally “male human,” but, this term is also a synonym for *puruṣa*, here, in the sense of human or living being. The final of these three verses clarifies that life is intimately bound with the concept of *cetana*, sentience, as sentient *dravya* possesses sense faculties.

Lambert Schmithausen notes the ethical implications of this identification of life with sentience in his study of the status of plants in early Buddhism,

And it is, as far as I can see, sentience, or *sentient* life, that is ethically relevant in the early Indian context. It is sentient living beings that are, in Buddhism as well as in Jainism, the object of the basic commitment not to kill or injure animate beings (*pāṇa*, *prāṇin*).... It even seems to me that in early Indian thought life and sentience almost coincide.<sup>101</sup>

As we saw earlier, the sense-ability of leeches, specifically their ability to smell, is an issue that was contested in commentaries by the time of Ḍalhaṇa’s writing in the twelfth century. In the detailed descriptions of leech husbandry found in the *Suśrutasaṃhitā*, leeches are clearly the subject of an ethos of care, nurturance, attunement, and collaborative practice in *jalaukāvacāraṇa*. Although Schmithausen concludes his study citing a lack of conclusive evidence for the status of plants as sentient in early Buddhist doctrine, he qualifies, “In the early period, the issue appears to have remained unsettled.”<sup>102</sup> This uncertainty regarding the sentience of plants is echoed by Olivelle in a note to his translation of the early first-millennium *Manavadharmaśāstra* (The Law Code of Manu). *Manavadharmaśāstra* 1.48–49 reads (Olivelle’s translation), “various kinds of shrubs and thickets and different types of grasses, and also creepers and vines ... wrapped in a manifold darkness caused by their past deeds, these come into being with inner awareness, able to feel pleasure and pain.”<sup>103</sup> In this passage, plants are

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<sup>100</sup> *sattvam ātmā śarīraṃ ca trayam etat tridaṇḍavat |  
lokas tiṣṭhati saṃyogāt tatra sarvaṃ pratiṣṭhitam || (CS Sū 1.46)  
sa pumāṃś cetanaṃ tac ca tac ca ādhikaraṇaṃ smṛtam |  
vedasyāśya tadarthaṃ hi vedo 'yaṃ saṃprakāśitaḥ || (CS Sū 1.47)  
khādīnyātmā manaḥ kālo diśaś ca dravyasaṃgrahaḥ |  
sendriyaṃ cetanaṃ dravyaṃ nirindriyaṃ acetanaṃ || (CS Sū 1.48)*

<sup>101</sup> Schmithausen, *Plants in Early Buddhism*, 22.

<sup>102</sup> Schmithausen, 98.

<sup>103</sup> Olivelle, *Manu’s Code of Law*, 89.

bound in the karma-driven cycle of *samsāra* (rebirth) as one-sensed beings possessing the most fundamental sense capacity—that of touch. Olivelle explains the salient term in the passage *antahsamjñā*, which he translates as “inner awareness.” “In brief, this term is used by our author to explicitly reject another opinion prevalent at the time and expressed in Purāṇic texts that plants lack both internal and external awareness.”<sup>104</sup> This uncertainty persisted, as Cakrapāṇidatta’s eleventh-century commentary to *Carakasamhitā Sūtrasthāna* 1.48 includes a lengthy excursus on the sentience of plants, citing this passage from the *Manavadharmaśāstra*, along with numerous other observations of plants appearing to respond to sensory stimuli. It seems that his concern is to cast as wide a net as possible for “life” and by extension the knowledge of life that is Āyurveda.

According to this classical Āyurvedic worldview, life and sentience are co-extensive and hinge upon a particular sense-ability that comes from the conjunction of mind, self and the sensing body, and it is through sense-ability that communication and intra-action unfold. Eduardo Kohn’s description of the Amazonian Runa worldview as an “ecology of selves” presents a critique of the categories “human”/“nonhuman,” recognizing all living beings as “selves” capable of thought. Like the jaguar that “sees” a human in a particular way that shapes their encounter, how a leech “sees,” or perceives, especially touch, matters critically to the course of the treatment encounter.<sup>105</sup> Using a Piercean analysis, Kohn explains, “Nonhuman selves then, have ontologically unique properties associated with their constitutively semiotic nature. And these are, to a certain extent, knowable to us. These properties differentiate selves from objects or artifacts.”<sup>106</sup> What renders agency, according to Kohn, is not just “resistance” like that seen in the mangle of practice necessitating scientists to change approach and goals, rather it is the agency exerted by selves who represent themselves not linguistically but through sign processes. I suggest that in the case of *jalaukāvacāraṇa*, this sign-based communication is not only visual, it is fundamentally haptic and intersensorial. Leeches communicate with humans through the fluidity and stickiness of their biting practices, which are based upon their own mapping of sensory inputs. Their choice to touch, to bite, to suck, in all of its specificities, are both felt by the patient, and felt and observed by the physician.

So, here, I weave Barad’s understanding of agency as “an enactment, not something that someone has” with the more ontologically stable notions of Kohn’s “selves” (in a Runa worldview) and “sentient beings” in Ayurveda, to translate what takes place in the clinic as *a vascularity*—an intervention in thinking about the formation of agencies at branching points in the practice mediated by tactile and intersensorial intra-actions.<sup>107</sup> It is a vascularity rather than a mangle because agencies emerge not just in moments of resistance or disruption, but also as the agencies of sense-able selves in communication. I suggest that as in Barad’s work, these selves are fluid, contingent, and co-constitutive. Throughout this dissertation, I translate *dravya* as “substance,” rather than “matter,” because although it is the substrate for both attribute (*guṇa*)

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<sup>104</sup> Olivelle, 240 cn1.49.

<sup>105</sup> Kohn opens with the following explanatory story: One night preparing to sleep in a hunting camp, his Runa companion warned him to sleep face up to avoid being “seen” by a jaguar as prey. In the face up position, if “a jaguar sees you as a being capable to looking back—a self like himself, a *you*—he’ll leave you alone. But if he should come to see you as prey—an *it*—you may well become dead meat.” Kohn continues, “How other kinds of beings see us matters. That other kinds of beings see us changes things.” Kohn, *How Forests Think*, 1.

<sup>106</sup> Kohn, 91.

<sup>107</sup> Barad, “Meeting the Universe Halfway,” 183.

and action (*karman*), we can understand “mattering” (in Barad’s terms) as occurring in the course of the dynamic intra-action of *dravya*, *guṇa*, and *karman*, through relations of *sāmānya* (generic concomitance), *viśeṣa* (generic opposition/difference), and *samāvāya* (inseparable concomitance). As discussed in Chapter One, these are six core principles, or causes (*kāraṇas*), upon which an Āyurvedic understanding of the mechanisms of actions are based.<sup>108</sup> I suggest that the dynamic interplay of these six categories, causing increase, decrease, strengthening, attenuation, and transformation, etc., examined in Chapter One, as a means to view and analyze the components of an intra-action at a particular branching point in the *vascularity* of Āyurvedic leech therapy.

Both on the page and in the clinic, leeches, quite literally, matter. They matter through the fluidity and stickiness of situated and intersensorial touch. María Puig de la Bellacasa extends Haraway’s feminist “situated knowledges” from the realm of vision into the realm of touch: “To think with touch has a potential to inspire a sense of connectedness that can further problematize abstractions and disengagements of (epistemological) distances—between subjects and objects, knowledge and the world, affects and facts, politics and science.”<sup>109</sup> Leeches’ assent to bite, to touch in a particular way, is a condition of possibility for treatment, and through their perceptions and inclinations in intra-action with humans, leeches determine the direction of the branchings travelled in the practice. Further, leeches act as translators of matter through their touch, mediated by their other sensory inclinations, and serve as sensory extensions for physicians. Physicians not only have to negotiate with leeches to enroll them in the practice, but they also observe them through touch and vision to gain additional information about the dynamic pathology of the patient’s condition.

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<sup>108</sup> Recall that Barad explains, “*matter is substance in its intra-active becoming—not a thing, but a doing, a congealing of agency. Matter is a stabilizing and destabilizing process of iterative intra-activity,*” and I suggest that the dynamic interplay of these six categories, examined in Chapter One, provides a way to break down and analyze the components of an intra-action at a particular branching point in the *vascularity* of leech therapy. (Author’s italics.) Barad, “Posthumanist Performativity,” 823.

<sup>109</sup> Puig de la Bellacasa, “Touching Technologies, Touching Visions,” 298; Haraway, “Situated Knowledges: The Science Question in Feminism and the Privilege of Partial Perspective.”

## AFTERWORD

This study has explored the ontologies and epistemologies of touch and tactile practice in early Āyurvedic medicine, revealing significant differences in engagement with touch in the *Carakasamhitā* and *Suśrutasamhitā*. While the general treatise elides descriptions of touch and attends at length to philosophies of touch, the surgical treatise provides ample detail of tactile practices but less theorization of touch as a sense faculty. By reading with the situated expertise of medieval commentators and contemporary practitioners, and by translating through a hermeneutic of touch, I have shown that these divergences in the representations of the embodiment of general and surgical physicians across these treatises evidence a greater sensory intimacy and prioritization of trained tactile skill on the part of physicians in the surgical school of medicine. This study has also examined the ways that classical ideas about sensory expertise are navigated by contemporary Āyurvedic physicians in Kerala through sensory negotiation and *yukti* in a terrain dominated by biomedicine. In the final chapters, I have taken an onto-epistemological approach to the study of medical agencies in the deeply tactile practice of Āyurvedic leech therapy both in the present and as represented in the distant past.

The varied strands of this study have rendered palpable the scope of ideas about tactility and tactile practices across these textual and contemporary spaces of Āyurvedic medicine. We have encountered touch represented as the primary sense faculty, mediating between the other sense faculties and the mind. We have seen tactile contact described as a primary cause for disease, and tactile therapies presented as a potent treatment. We have also examined representations of touch as coextensive with a broader notion of contact. Exploring the primacy of touch in these contexts has demonstrated that the experience of touch provides information about external sense objects, but also, importantly, constitutes and provides experience about the body exerting sense perception. Touch shapes our sense of self.

During the COVID-19 pandemic, many of us have been deprived of external touch. We have been physically separated from loved ones, from our communities, and from the everyday encounters that constitute touch. Those of us privileged enough to be able to work remotely have focused our external lives online. In the same stroke, we have lost sensory community and gained a refuge from the sensory assaults that can come with such community. In her poem “Before,” Jane Hilberry invites us to experience the loss of multiple forms of sensory contact and care as a loss of touch, she writes,

It’s that now when students mute themselves  
I can’t hear the always-late kid  
scrape his chair up to the table, can’t smell

the egg and the bagel that he unwraps;  
I can’t hear the kids’ pencils scratching  
the page, their hair falling into their eyes.

It was all a form of touch.  
Kara arranging snacks for our staff meetings,  
Dez’s laugh, the clip of Jessica’s clogs<sup>1</sup>

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<sup>1</sup> Hilberry, “Before.” (Hilberry, Jane. “Before.” *The Sun*, 547 (2021): 39.

Hilberry captures the feeling of “losing touch” through the absence of a range of sensory contacts with others—hearing, smelling, seeing, the people around us—and through a loss of care. Who do we become when the possibilities for staying in touch, for being in touch, migrate from the realm of the sensory and physical, to the virtual? What transformations take place in this move to the distant and audio-visual from the proximate and intersensorial?

Foreclosures on the tangible vulnerability of direct contact constitute both loss and potential. In her work on tactile technologies that trouble of the primacy of vision in Haraway’s “Situated Knowledges,” Puig de la Bellacasa asks of touch, “Is knowledge-as-touch less susceptible to be masked behind a ‘nowhere’? We can see without being seen, but can we touch without being touched?”<sup>2</sup> Online interfaces greatly enhance one’s ability to see without being seen. But the possibility of opting out of reciprocity has also opened spaces of safety and freedom from sensory and chemical insult, microaggressions, and discrimination in an online context. As Barad writes in her exploration of the possibility of for responsibility and compassion through encountering the “infinite alterity”<sup>3</sup> that is at the heart of quantum physics, “Touch is never pure or innocent. It is inseparable from the field of differential relations that constitute it.”<sup>4</sup> Touch in the broader sense expressed by Hilberry is uneven in its benefits and harms.

Non-emergency medicine, too, has gone online, relying on patient testimony, visual information, and on the patient’s descriptions of their own tactile experience for basic examination. Who do we become as patients and physicians when medical encounters take place in a touchless environment, whether in a clinic or on screen? How do physicians navigate this in their own practice of diagnosis, not only in terms of the absence of touch, but also of other proximate sensory contact with patients? Do the entailments of trained touch and medical specialization change when touch is not possible? What kind of intra-action—co-constitution of agencies through touch or other sensory interfaces—can occur through the distant intimacy of medicine practiced via two-dimensional vision and sound? The rendering of a flattened visuality is only one form of the technologization of medical touch and is very much the opposite of what Puig de la Bellacasa writes about when she explores haptic technologies, for example sensitive robotic surgical hands, that reclaim, expand upon, and trouble vision.<sup>5</sup>

If touch, and being in touch, can be a basis for constituting an ethics of care, what of care when evacuated of the tactile, or when haptic technologies render tactility remote? In Hilberry’s poem it is the teacher who misses the touch of the sensory experience of their students. Hilberry’s own capacity to care for her students, and receive care from her co-workers, is lost through technological mediation. What of the missing experience of touch for physicians, or of the masked and highly mediated touch of physicians working in hospitals during the pandemic? Physicians, like patients, are constituted bodily by their medical training, evolving expertise, and skilled tactile interactions with patients.

My purpose here is not to speculate on the future of medicine and medical tactility, but to point to the centrality of touch in our own translation of the world. As we emerge from the current iteration of this pandemic into a climate-transforming world of evolving virus variants and differentially impacted communities, it is unclear how our experiences of touch and our

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<sup>2</sup> Puig de la Bellacasa, “Troubling Visions,” 298.

<sup>3</sup> Barad, “On Touching,” 218.

<sup>4</sup> Barad, 215.

<sup>5</sup> Puig de la Bellacasa, “Troubling Visions,” 305.

choices/non-choices regarding touch will continue to evolve. I suggest here that translating touch—being attentive to touch and its absence and having an awareness of the centrality of touch in our lives—is a condition of possibility for responsibility, and for understanding our intertwined embodiments and becoming in the world.

## BIBLIOGRAPHY

### Primary Sources

#### Malayalam

*Ashtāṅghrudayam Sutrasthānam*. Translated into Malayalam with commentary by P. M. Govindan Vaidyan. Kodalungallur: Devi Book Stall, 2015.

*Charaka Samhitha Nidanasthanam & Vimanasthanam*. Translated into Malayalam with commentary by P. M. Govindan Vaidyan. Calicut: Redstar Offset Printers, 2010.

*Charaka Samhitha Sareerasthanam & Indriyasthanam*. Translated into Malayalam with commentary by P. M. Govindan Vaidyan. Calicut: Redstar Offset Printers.

*Cikitsāmañjari*. Edited by D. Sreemam Namboothiri. Alappuzha, Kerala: Vidyarambham Publishers, 2017.

*Sahasrayogam, Sujanapriya Commentary*. Edited by S. Gopala Pillai and K. V. Krishnan Vaidyan. Alappuzha, Kerala: Vidyarambham Publishers, 2013.

Thirumulpad, K. Raghavan. *Ashtangasangraha Malayalam Commentary, Prakasika Vyakhya Moolasiddhantham*. Chalakudy: Prakashika, 2014.

#### Pāli

*Majjhima-Nikaya, Suttantas 1–76*. Based on Vol. I. Edited by V. Trenckner, London: Pali Text Society 1888.

#### Sanskrit

Amarasiṃha. *The Nāmaliṅgānuśāsāna (Amarakosha) of Amarasimha: With the Commentary (Amarakoshadghatana) of Kshirasvāmin*. Edited by Kṛṣṇajī Govinda Oka. Poona: Law Printing Press, 1913.

*Aṣṭāṅghrudaya with the Commentaries 'Sarvāṅgasundarā' of Aruṇadatta and 'Āyurvedarasāyana' of Hemādri*. Edited by K. R. S. Navare. Annotated by Anṇā Moreśwar Kuṇṭe and Kṛṣṇa Rāmchandra Śāstrī. Kashi Sanskrit Series. Varanasi: Chaukhamba Sanskrit Sansthan, 2012.

*Aṣṭāṅgasamgrahaḥ of Vāhaṭa or Vṛddha Vāgbhata with the Śāsilekhā Sanskrit Commentary by Indu*. Edited by Dr. Shivaprasad Sharma. Banaras Ayurveda Series. Varanasi: Chowkhamba Sanskrit Series Office, 2012.

*Bhela-saṃhitā Text with English Translation, Commentary, and Critical Notes*. Translated by K. H. Krishnamurthy and Edited by P. V. Sharma. Varanasi: Chaukhambha Visvabharati, 2008.

*Caraka-Saṃhitā by the Great Sage Bhagavata Agniveśa Thoroughly Revised by Maharṣi Caraka and Dṛḍhabala with 'Āyurvedadīpika' Commentaries of Śrīmat Cakrapāṇidatta and 'Jalpakaḷpataru' Explanatory Notes and Annotations of Mahamahopādhyāya Śrī Gaṅgādhara Kaviratna Kavirāja*. 2011. Edited and revised by Kaviraja Shree Narendranath Sengupta and Kaviraja Shree Balachandra Sengupta. 5 vols. New Delhi: Rashtriya Sanskrit Sansthan. Reprint of the 1985 edition.

*Carakasamhitā, Śrīcakrapāṇidattaviracitā Ayurvedadīpikāvyaḷkhyayā Saṃvalitā*. Edited by Vaidya Jadavaji Trikamji Ācārya. 5th ed. Varanasi: Chaukhamba Orientalia. Reprint of the 1941 Bombay edition. 2009. (Cited in commentarial footnotes as “Carakasamhitā”)

- Carakasamhitā by the Great Sage Bhagavata Agniveśa Thoroughly Revised by Maharṣi Caraka and Dṛḍhabala with 'Āyurvedadīpika' Commentaries of Śrīmat Cakrapāṇidatta and 'Jalpakaḷpataru' Explanatory Notes and Annotations of Mahamahopādhyāya Śrī Gaṅgādhara Kaviratna Kavirāja*, edited and revised by Kaviraja Shree Narendranath Sengupta and Kaviraja Shree Balachandra Sengupta. 5 vols. New Delhi: Rashtriya Sanskrit Sansthan, 2011. Reprint of the 1985 edition, vol. 1.
- The Kāmasūtram of Śrī Vātsyāyana Muni With the Jayamaṅgala Sanskrit Commentary of Śrī Yosodhara*. Edited with Hindi Commentary by Śrī Devdutta Śāstrī. Varanasi: Chaukhambha Sanskrit Sansthan, 2012.
- The Sushrutasamhitā of Sushruta with the Nibandhasangraha Commentary of Shree Dalhaṅgācārya*. Edited by Vaidya Jādvaji Trikamjī Āchārya. 2nd rev. ed. Bombay: Nirṇaya-Sāgar Press. Reprint of the 1931 edition. 2015. (Cited in commentarial footnotes as “*Suśrutasamhitā*”)
- Suśrutasamhitā Sūtrasthānam with Bhānumatī Commentary by Cakrapāṇidatta*. Krishnadas Ayurveda Series. Edited by Pt. Nandakishor Sharma Bhishagacharya and Vaidya Yadavaji Trikamji Acharya. Varanasi: Krishnadas Academy, 2008.

### Secondary Sources and Sources in Translation

- Abraham, Leena. “From Vaidyam to Kerala Ayurveda.” *IIAS Newsletter* 65 (2013): 32–33.
- Abraham, Leena. “Sociology of a Regional Medicine: Inheritance Capital, Social Networks, and Institutional Strategies in the Making of Contemporary Ayurveda in Kerala.” *Asian Medicine* 13, no. 1–2 (2018): 276–97.
- Ali, Daud. “Censured Sexual Acts and Early Medieval Society in India.” In *Sexual Diversity in Asia, c. 600–1950*, edited by Raquel Reyes, William Gervase, and Clarence-Smith, 47–66. London and New York: Routledge, 2012.
- Alter, Joseph S. *Yoga in Modern India: The Body between Science and Philosophy*. Princeton, N.J.: Princeton University Press, 2004.
- Alter, Joseph S., F. Bray, A. Guha, P. C. Joshi, and C. Leslie. “Heaps of Health, Metaphysical Fitness: Ayurveda and the Ontology of Good Health in Medical Anthropology [and Comments and Reply].” *Current Anthropology* 40 (1999): S43–66.
- Apte, Vaman Shivaram. *The Practical Sanskrit-English Dictionary*. New Delhi: Nataraj Books, 2007.
- Arafath, P. K. Yasser. “History of Medicine and Hygiene in Medieval Kerala: 14–16 Centuries.” PhD diss., University of Hyderabad, 2012.
- Arnold, David. *Colonizing the Body: State Medicine and Epidemic Disease in Nineteenth-Century India*. Berkeley: University of California Press, 1993.
- Āryasūra, J. S. Speyer, and F. Max Müller. *The Jātakamālā [or] Garland of Birthstories of Āryasūra*. 1895. Reprint. Delhi: Motilal Banarsidass, 1971.
- Ashokan, G. *Philosophy of Carakasamhitā*. New Delhi: New Bharatiya Book Corporation, 2015.
- Aśvaghōṣa and Johnson, Edward Hamilton. *Saundarananda of Aśvaghōṣa*. Oxford University Press for the University of the Panjab, Lahore, 1928.
- Avicenna. *A Treatise on the Canon of Medicine of Avicenna, Incorporating a Translation of the First Book*. Edited and translated by O. Cameron Gruner. New York: Kelley, 1970.
- Barad, Karen. “Meeting the Universe Halfway: Realism and Social Constructivism without Contradiction.” In *Feminism, Science, and the Philosophy of Science*, edited by Jack



- Nelson, 161–194. Netherlands: Springer, Dordrecht, 1997.
- Barad, Karen. “On Touching—the Inhuman That Therefore I Am.” *differences* 23, no. 3 (2012): 206–23.
- Barad, Karen. “Posthumanist Performativity: Toward an Understanding of How Matter Comes to Matter.” *Signs* 28, no. 3 (2003): 801–831.
- Barad, Karen. “Quantum Entanglements and Hauntological Relations of Inheritance: Dis/Continuities, Spacetime Enfoldings, and Justice-to-Come.” *Derrida Today* 3, no. 2 (2010): 240–268.
- Barnes, Barry and David Bloor. “Relativism, Rationalism and the Sociology of Knowledge.” In *Rationality and Relativism*. Edited by Martin Hollis and Steven Lukes, 21–47. Boston: MIT Press, 1982.
- Benderitter, Thierry, and George Engel. “Userhat – TT 56.” Osirisnet: Tombs of Ancient Egypt. Accessed Mar. 6, 2018. [https://www.osirisnet.net/tombes/nobles/ous56/e\\_ouserhat56\\_01.htm](https://www.osirisnet.net/tombes/nobles/ous56/e_ouserhat56_01.htm).
- Bhattacharya, Gouriswar. “A Unique Stone Sculpture of Dhanvantari from the Russek Collection, Switzerland.” In *Bilvapatra Treasures of Indian Art: Dr. N. P. Joshi Felicitation Volume*. Edited by M. N. P. Tiwari and Kamal Giri, 1–8. New Delhi: Research India Press, 2013.
- Bode, Maarten and P. Shankar. “Ayurvedic College Education, Reifying Biomedicine and the Need for Reflexivity.” *Anthropology & Medicine* 25, no. 2 (2018): 162–175.
- Brooks, Lisa Allette. “Epistemology and Embodiment: Knowledge and the Senses in Classical Ayurvedic Diagnosis,” *Asian Review of World Histories* 6, no. 1 (2018): 98–135.
- Brooks, Lisa Allette. “Karma as an ‘Apparatus’: The Etiology of Non-Normative Sexualities in Classical Āyurveda.” MA thesis, University of Colorado, Boulder, 2011.
- Brooks, Lisa Allette. A Surgeon’s Hand: Reflections on Surgical Tactility in Early Ayurveda.” *Asian Medicine: Journal of the International Association for Traditional Asian Medicine*, 15, no. 1, Special Issue: “Medicines and Memories in South Asia,” November 2020, 30–62.
- Brooks, Lisa Allette. “Whose Life is Water, Whose Food is Blood: Fluid Bodies in Āyurvedic Leech Therapy.” In *Fluid Matter(s): Flow and Transformation in the History of the Body*, edited by Natalie Köhle and Shigehisa Kuriyama. Asian Studies Monograph Series 14. Canberra, ANU Press, 2020. doi.org/10.22459/FM.2020
- Brooks, Lisa Allette. “The Vascularity of Ayurvedic Leech Therapy: Sensory Translations and Emergent Agencies in Interspecies Medicine.” *Medical Anthropology Quarterly* 35, no. 1 (2021): 82–101.
- Bronkhorst, Johannes. *Greater Magadha: Studies in the Culture of Early India*. Boston: Brill, 2007.
- Bruns, Prudence. *Naḍivijñāna: The Crest Jewel of Āyurveda, A Translation of Six Central Texts and an Examination of the Sources, Influence, and Development of Indian Pulse-Diagnosis*. Germany: VDM VERLAG Dr. Müller, 2010.
- Buswell, Robert E., and Donald S. Lopez. *The Princeton Dictionary of Buddhism*. Princeton: Princeton University Press, 2014.
- Butler, Judith. *Undoing Gender*. New York: Routledge, 2004.
- Callon, Michel. “Some Elements of a Sociology of Translation: Domestication of the Scallops and the Fishermen.” In *Power, Action and Belief: A New Sociology of Knowledge*, edited by John Law, 196–223. London, Routledge & Kegan, 1986.

- Celsus, Aulus Cornelius and George Frederick Collier. *A Translation of the Eight Books of Aul. Corn. Celsus on Medicine*. London: Simpkin and Marshal, 1831.
- Cerulli, Anthony Michael. "Āyurveda." In *Brill's Encyclopedia of Hinduism*, edited by Knut A. Jacobsen, Helene Basu, Angelika Malinar and Vasudha Narayanan, 267–280. India Leiden: Brill, 2009.
- Cerulli, Anthony Michael. "Body, Self, and Embodiment in the Sanskrit Classics of Āyurveda." In *Refiguring the Body: Embodiment in South Asian Religions*, edited by Barbara A. Holdrege and Karen Pechilis, 59–88. Albany: SUNY Press, 2016.
- Cerulli, Anthony Michael. "Politicking Ayurvedic Education." *Asian Medicine* 13, no. 1–2 (2018): 298–334.
- Cerulli, Anthony Michael. *Somatic Lessons: Narrating Patienthood and Illness in Indian Medical Literature*. Suny Series in Hindu Studies, Albany: SUNY Press, 2012.
- Central Council of Indian Medicine (CCIM) Syllabus. Accessed April 20, 2019. <https://www.ccimindia.org/ayurvedasyllabus.php>.
- Chakrabarty, Debasish. *Vaiśeṣika-Sūtra of Kaṇāda*. New Delhi: D. K. Printworld (P) Ltd., 2003.
- Chandra, Mahesh. *The Leeches of India—A Handbook*. Zoological Survey of India, Calcutta, 1991.
- Chattopadhyaya, Debiprasad. *Science and Society in Ancient India*. Calcutta: Research India Publication, 1977.
- Chen, Mel Y. *Animacies: Biopolitics, Racial Mattering, and Queer Affect*. Durham: Duke University Press, 2012.
- Classen, Constance. *The Book of Touch*. New York: Berg, 2005.
- Classen, Constance. *The Deepest Sense: A Cultural History of Touch*. Studies in Sensory History. Urbana: University of Illinois Press, 2012.
- Cleetus, Burton. "Subaltern Medicine and Social Mobility: The Experience of the Ezhava in Kerala." *Indian Anthropologist* 37, no. 1 (2007): 147–172.
- Cleetus, Burton. "Western Science, Indigenous Medicine and the Princely States: The Case of Ayurvedic Reorganization in Travancore, 1870–1940." In *Society, Medicine and Politics in Colonial India*, edited by Biswamoy Pati and Mark Harrison, 98–121. New York: Routledge India, 2018.
- Cohen, Lawrence. "The Epistemological Carnival: Meditations on Disciplinary Intentionality and Āyurveda." In *Knowledge and the Scholarly Medical Traditions*, edited by Don Bates, 320–43. Cambridge University Press, 1995.
- Cohen, Lawrence. "The History of Semen; Notes on a Culture- Bound Syndrome." In *Medicine and the History of the Body; Proceedings of the 20th, 21st and 22nd International Symposium on the Comparative History of Medicine-East and West*, edited by Yasuo Otsuka, Shizu Sakai, and Shigehisa Kuriyama, 113–138. Tokyo: Ishiyaku EuroAmerica, Inc. Publishers, 1999.
- Comba, Antonella. "Carakasamhitā Śārīrasthāna I and Vaiśeṣika Philosophy." In *Studies on Indian Medical History*. Groningen Oriental Studies 2, edited by Gerrit Jan Meulenbeld and Dominik Wujastyk. 39–56. Groningen: Forsten, 1987.
- Das, Rahul Peter. "Notions of 'Contagion' in Classical Indian Medical Texts." In *Contagion: Perspectives from Pre-Modern Societies*, edited by Dominik Wujastyk and Lawrence I. Conrad, 55–78. Aldershot: Ashgate, 2000.

- Das, Rahul Peter. *The Origin of the Life of a Human Being: Conception and the Female According to Ancient Indian Medical and Sexological Literature*. Indian Medical Tradition Vol. 6. Delhi: Motilal Banarsidass Publishers, 2003.
- Das, Rahul Peter. "Some Notes on Vṛkṣāyurveda." *Ancient Science of Life* 6, no. 1 (1986): 6–9.
- Dasgupta, Surendranath. *A History of Indian Philosophy*. 5 Vols. 1922. Reprint. Delhi: Motilal Banarsidass Publishers 2012.
- Daston, Lorraine and Peter Galison. *Objectivity*. New York, Zone Books, 2007.
- DeLaet, Marianne and Annemarie Mol. "The Zimbabwe Bush Pump Mechanics of a Fluid Technology." *Social Studies of Science* 30, no. 2 (2000):
- Deshpande, Vijaya Jayant. "An Investigation into Ancient Greco-Indian Medical Exchanges: Sostratus vs Suśruta." *Indian Journal of History of Science* 54 (2019): 144–161
- Dhavane, Kum. G. V. "A Critical Study of Dhanvantari." *Annals of the Bhandarkar Oriental Research Institute*, 57, no. 1/4 (1976): 95–102.
- Dickenson, Michael H. and Charles Lent. "Feeding Behaviour of the Medicinal Leech, *Hirudo Medicinalis* L." *Journal of Comparative Physiology A* 154 (1984): 449–455.
- Doniger O'Flaherty, Wendy. "Karma and Rebirth in the Vedas and Purāṇas." In *Karma and Rebirth in Classical Indian Traditions*, edited by Wendy Doniger O'Flaherty, 3–37. Berkeley: University of California Press, 1980.
- Elliot, Ellen J. "Chemosensory Stimuli in Feeding Behavior of the Leech *Hirudo Medicinalis*." *Journal of Comparative Physiology A* 159, no. 3 (1986): 391–401.
- Fields, William S. "The History of Leeching and Hirudin." *Pathophysiology of Haemostasis and Thrombosis* 21, no. 1 (1991): 3–10.
- Filliozat, Jean. *The Classical Doctrine of Indian Medicine, its Origins and its Greek Parallels*. Delhi: Munshiram Manoharlal, 1964.
- Filliozat, Pierre Sylvian. "Caraka's Proof of Rebirth." *Journal of the European Ayurvedic Society* 3 (1993): 94–111.
- Filliozat, Pierre Sylvian. "La Logique du Médecin selon la Carakasamhitā." *Comptes rendus des séances de l'Académie des Inscriptions et Belles-Lettres* 150, no. 4 (2006): 1961–1975.
- Filliozat, Pierre Sylvian. "Yukti, le Quatrième pramāṇa des Médecins (Carakasamhitā, Sūtrasthāna XI, 25)." *Journal of the European Ayurvedic Society* 1 (1990): 33–46.
- Fišerová, I. and O. Fišer. "Dissection in Ancient India." In *History and Culture of Ancient India I for the XXVI International Congress of Orientalists*, edited by V. Struve W. Ruben, G. Bongard-Levin, 306–328. Moscow: Oriental Literature Publishing House, 1963.
- Foucault, Michel. *Discipline and Punish: The Birth of the Prison*. New York: Vintage Books, 1995.
- Foucault, Michel. *The History of Sexuality, Vol 1*. New York: Vintage, 1990.
- Foucault, Michel, Frédéric Gros, François Ewald, and Alessandro Fontana. *The Hermeneutics of the Subject: Lectures at the Collège De France, 1981–1982*. New York: Palgrave-Macmillan, 2005.
- Geishauser, Max, Stefan Schmiedl, Karsten Knobloch, Peter M Vogt, and Andreas Gohritz. "Teach the Leech the Site to Bite: Another Technical Tip to Tame *Hirudo Medicinalis*." *Plastic and reconstructive surgery* 124, no. 2 (2009): 671.
- Glucklich, Ariel. *The Sense of Adharma*. New York: Oxford University Press, 1994.
- Goldman, Robert P. "How Fast Do Monkeys Fly? How Long Do Demons Sleep?" *Rivista di studi sudasiatici* 1 (2006):7–29.
- Gopālakṛṣṇa and Ashok D. Satpute. *Rasendra Sāra Saṅgraha of Sri Gopal Krishna: Text with*

- English Translation, Notes & Appendixes* [in English and Sanskrit; translated from Sanskrit.]. Krishnadas Ayurveda Series. 1st ed. Varanasi: Chowkhamba Krishnadas Academy, 2003.
- Gopinath, B. G. *Philosophic Foundation of Ayurveda*. The Chaukhamba Ayurvijnan Studies. Delhi: Chaukhamba Sanskrit Pratishthan: 2008.
- Gupta, Akhil. *Postcolonial Developments: Agriculture in the Making of Modern India*. Durham: Duke University Press, 1998.
- Halbfass, Wilhelm. *On Being and What There Is : Classical Vaiśeṣika and the History of Indian Ontology*. Albany: State University of New York Press, 1992.
- Halliburton, Murphy. *Mudpacks and Prozac: Experiencing Ayurvedic, Biomedical, and Religious Healing*. New York: Routledge, 2009.
- Haraway, Donna. “Situated Knowledges: The Science Question in Feminism and the Privilege of Partial Perspective.” *Feminist Studies* 14, no. 3 (1988): 575–599.
- Haraway, Donna. *When Species Meet*. Minneapolis: University of Minnesota Press, 2008.
- Harley, C. M., J. Cienfuegos, and D. A. Wagenaar. “Developmentally Regulated Multisensory Integration for Prey Localization in the Medicinal Leech.” *Journal of Experimental Biology* 214, no. 22 (2011): 3801.
- Harvey, Elizabeth D. *Sensible Flesh: On Touch in Early Modern Culture*. Philadelphia: University of Pennsylvania Press, 2003.
- Hellwig, Oliver. “The Theory of the Puruṣa in *Carakasamhitā*, *Śārīrasthāna* 1.1 and Its Connection with the Early History of Indian Philosophy.” *Studien zur Indologie und Iranistik* 26 (2009): 27–69.
- Hoernle, A. F. Rudolf. *Studies in the Medicine of Ancient India*. Vol. 1. Oxford: Clarendon Press, 1907.
- Hodel-Hoenes, Sigrid. *Life and Death in Ancient Egypt: Scenes from Private Tombs in New Kingdom Thebes*. Cornell University Press, 2000.
- Howes, David. *Empire of the Senses: The Sensual Culture Reader*. Sensory Formations Series. New York: Berg, 2005.
- Jaaware, Aniket. *Practicing Caste: On Touching and Not Touching*. New York: Fordham University Press, 2019.
- Jain, N. L. *Biology of Jaina Treatise on Reals: Biology in Tattvārtha-Sūtra: English Translation with Notes on Chapter Two of Tattvārtha-Rājavārtika of Akalaṅka (Royal Semi-Aphorismic Explanatory on Reals) on Tattvārtha-Sūtra (Treatise on Reals) by Ācārya Umāsvāmi*. Vol. 120. Parsvanatha Vidyapitha, 1999..
- Jamison, Stephanie. “Women ‘Between the Empires’ and ‘Between the Lines.’” In *Between the Empires: Society in India 300 BCE to 400 CE*, edited by Patrick Olivelle, 191–214. Oxford: Oxford University Press, 2006.
- Jamison, Stephanie W. and Joel P. Brereton. *The Rigveda : The Earliest Religious Poetry of India*. [Translated from Vedic Sanskrit.] Vol. 3, South Asia Research. New York: Oxford University Press, 2014.
- Keller, Eve. “The Subject of Touch: Medical Authority in Early Modern Midwifery.” In *Sensible Flesh*, edited by Elizabeth Harvey, 62–80. Philadelphia: University of Pennsylvania Press, 2020.
- Khandapur, Sujay, Amit K. Malhotra, Vidhyut Bhatia, Subandhu Gupta, Vinod K. Sharma, Rakesh Mishra, and Narendra K. Arora. “Chronic Arsenic Toxicity from Āyurvedic Medicines.” *International Journal of Dermatology* 47, no. 6 (2008): 618–621

- Kirk, Robert G. W. and Neil Pemberton. *Leech*. London: Reaktion Books, 2013.
- Koeppen, Michael Aurich, and Thomas Rampp. "Medicinal Leech Therapy in Pain Syndromes: A Narrative Review." *Wiener Medizinische Wochenschrift* 164, no. 5–6 (2014): 95–102.
- Köhle, Natalie. "A Confluence of Humors: Ayurvedic Conceptions of Digestion and the History of Chinese 'Phlegm'(Tan)." *Journal of the American Oriental Society* 136, no. 3 (2016): 465–493.
- Kohn, Eduardo. *How Forests Think: Toward an Anthropology Beyond the Human*. Berkeley: University of California Press, 2013.
- Kumar, Syal, Gustav J Dobos, and Thomas Rampp. "Clinical Significance of Leech Therapy in Indian Medicine." *Journal of Evidence-Based Complementary & Alternative Medicine* 18, no. 2 (2013): 152–158.
- Kurian, Sangeeth. "A Leech-Gatherer's Tale." *The Hindu*, October 10, 2008, <http://www.thehindu.com/todays-paper/tp-national/tp-kerala/A-leech-gathererrrsquos-tale/article15319276.ece>.
- Kuriyama, Shigehisa. *The Expressiveness of the Body and the Divergence of Greek and Chinese Medicine*. New York: Zone Books, 1999.
- Kuriyama, Shigehisa. "Interpreting the History of Bloodletting." *Journal of the History of Medicine and Allied Sciences* 50, no. 1 (1995): 11–46.
- Langford, Jean. *Fluent Bodies: Ayurvedic Remedies for Postcolonial Imbalance*. Durham: Duke University Press, 2002.
- Lanman, Charles. "The Milk-Drinking *Hansas* of Sanskrit Poetry." *Journal of Asiatic and Oriental Studies* 19 (1898): 151.
- Larson, Gerald J. "Āyurveda and the Hindu Philosophical Systems." *Philosophy East and West* 37, no. 3 (1987): 245–259.
- Larson, Gerald J. *Classical Sāṃkhya: an Interpretation of its History and Meaning*. Delhi: Motilal Banarsidass, 1969.
- Latour, Bruno. *Science in Action: How to Follow Scientists and Engineers through Society*. Cambridge, Mass.: Harvard University Press, 1987.
- Latour, Bruno. *We Have Never Been Modern*. Cambridge, Mass.: Harvard University Press, 1993.
- Leslie, Charles. "The Ambiguities of Medical Revivalism in Modern India." In *Asian Medical Systems: Comparative Study*, edited by Charles Leslie, 356–367. Berkeley: University of California Press, 1976.
- Leslie, Charles. "Interpretations of Illness: Syncretism in Modern Ayurveda." In *Paths to Asian Medical Knowledge*, edited by Charles Leslie and Allan Young, 177–208. Berkeley: University of California Press, 1992.
- Lyssenko, Viktoria. "The Human Body Composition in Statics and Dynamics: Āyurveda and the Philosophical Schools of Vaiśeṣika and Sāṃkhya." *Journal of Indian Philosophy* 32, no. 1 (2004): 31–56.
- Maas, Philipp A. "The Concepts of the Human Body and Disease in Classical Yoga and Āyurveda." *Wiener Zeitschrift für die Kunde Südasiens/Vienna Journal of South Asian Studies* 51 (2007): 125–62.
- Maas, Philipp A. "On What Became of the *Carakasamhitā* after Ḍṛḍhabala's Revision." *eJournal of Indian Medicine* 3 (2010):1–22.
- Malcolm, Elliott, J. and Ulrich Kutschera. "Medicinal Leeches: Historical Use, Ecology, Genetics and Conservation." *Freshwater Reviews* 4, no. 1 (2011): 21–41.

- Mandal, C. K. and Subhrendu S. Mishra. "Annelida: Hirudinea (Leeches)." In *Current Status of Freshwater Faunal Diversity in India*, edited by Kailash Chandra, K. C. Gopi, D. V. Rao, K. Valarmathi, and J. R. B. Alfred, 187–197. Kolkata: Zoological Survey of India, Ministry of Environment, Forest and Climate Change, Government of India, 2017.
- Mani, Raj. "Leg Ulcers—a Problem in India?" In *Management of Wound Healing*, edited by Vijay Shukla, Raj Mani, Luc Téot, and Satyajit Pradhan, 13–18. New Delhi: Jayapee Brothers Medical Publishers Ltd., 2007.
- Manohar, P. Ram. "Ayurvedic Education: Where to Go from Here?" *Ancient Science of Life* 33, no. 3 (January 1, 2014): 143–145.
- Markwardt, Fritz. "Hirudin as Alternative Anticoagulant—a Historical Review." *Seminars in Thrombosis and Hemostasis*, 28, no. 5 (2002): 405–414.
- Marriott, McKim. *India through Hindu Categories*. New Delhi: Sage publications, 1990.
- Massetti, Laura. "Mr. Hand: On Gk. Χεῖρων, Ved. Rudrá- 'of healing hand' and Hitt. kiššeraš DUTU-uš." *Münchener Studien zur Sprachwissenschaft* 72, no. 1 (2018/2019): 97–120.
- Mayrhofer, Manfred. "Etymologisches Wörterbuch des Altindiarischen." *Heidelberg, Carl Winter*, 1986.
- Mayrhofer, Manfred. *Kurzgefasstes Etymologisches Wörterbuch des Altindischen* [A Concise Etymological Sanskrit Dictionary]. Heidelberg: Carl Winter, Universitätsverlag, 1956.
- McHugh, James. "The Classification of Smells and the Order of the Senses in Indian Religious Traditions." *Numen*, 54, no. 4 (2007): 374–419.
- McHugh, James. *Sandalwood and Carrion: Smell in Premodern Indian Religion and Culture*. New York: Oxford University Press, 2013.
- Menon, Indudharan. *Hereditary Physicians of Kerala: Traditional Medicine and Ayurveda in Modern India*. New York: Routledge, 2019.
- Merleau-Ponty, Maurice and Claude Lefort. *The Visible and the Invisible; Followed by Working Notes*. Northwestern University Studies in Phenomenology & Existential Philosophy. Evanston Ill.: Northwestern University Press, 1968.
- Meulenbeld, Gerrit Jan. *A History of Indian Medical Literature*. Groningen Oriental Studies V. 15. 4 Vols. Groningen: E. Forsten, 1999.
- Mitra, Jyotir. "The Geographical Data of the Astangasangraha." *Proceedings of the Indian History Congress* 38 (1977): 160–167.
- Modi, Narendra. "Text of PM's speech at Vision Conclave at Global Ayurveda Festival," February 2, 2016. [http://www.pmindia.gov.in/en/news\\_updates/text-of-pmsspeech-at-vision-conclave-at-global-ayurveda-festival-kozhikode/](http://www.pmindia.gov.in/en/news_updates/text-of-pmsspeech-at-vision-conclave-at-global-ayurveda-festival-kozhikode/)
- Mol, Annemarie. *The Body Multiple: Ontology in Medical Practice*. Science and Cultural Theory. Durham: Duke University Press, 2002.
- Mol, Annemarie. "Cutting Surgeons, Walking Patients: Some Complexities Involved in Comparing." In *Complexities: Social Studies of Knowledge Practices*. Edited by John Law and Annemarie Mol, 218–257. Durham: Duke University Press, 2002.
- Monier-Williams, Monier, Ernst Leumann, and Carl Cappeller. *A Sanskrit-English Dictionary: Etymological and Philologically Arranged with Special Reference to Cognate Indo-European Languages* [in English and Sanskrit]. AES Reprint. New Delhi: Asian Educational Services, 1999.
- Mory, Robert N., David Mindell, and David A. Bloom. "The Leech and the Physician: Biology, Etymology, and Medical Practice with Hirudinea Medicinalis." *World Journal of Surgery* 24, no. 7 (2000): 878–883.

- Mukharji, Projit Bihari. *Doctoring Traditions: Ayurveda, Small Technologies, and Braided Sciences*. Chicago: University of Chicago Press, 2016.
- Mukharji, Projit Bihari. "Vishalyakarani as *Eupatorium ayapana*: Retro-botanizing, Embedded Traditions, and Multiple Historicities of Plants in Colonial Bengal, 1890–1940." *Journal of Asian Studies* 73, no. 1 (2014): 65–87.
- Munshi, Younis, Irfat Ara, Huma Rafique, and Zahoor Ahmad. "Leeching in the History—A Review." *Pakistan Journal of Biological Sciences* 11, no. 13 (2008): 1650–1653.
- Münster, Ursula. "Working for the Forest: The Ambivalent Intimacies of Human–Elephant Collaboration in South Indian Wildlife Conservation." *Ethnos* 81, no. 3 (2014): 425–447.
- Nāgārjuna, and Hari Śaṅkara Śarmā. *Rasendra Maṅgalam* [in English, Hindi, and Sanskrit]. Jayakṛṣṇadas Āyurveda Granthamālā. Varanasi: Caukhambha Orientalia, 2003.
- Ñāṇamoli, Bhikkhu, and Bhikkhu Bodhi. *The Middle Length Discourses of the Buddha: A New Translation of the Majjhima Nikāya*. Kandy: Buddhist Publication Society, 1995.
- Nariandas, Harish. "Nosopolitics: Epistemic Mangling and the Creolization of Contemporary Ayurveda." In *Medical Pluralism and Homeopathy in India and Germany (1810–2010): Practices in a Comparative Perspective*, edited by Martin Dinges, 105–136. Stuttgart: Franz Steiner Verlag, 2014.
- Nariandas, Harish. "Of Shastric 'Yogams' and Polyherbals: Exogenous Logics and the Creolisation of the Contemporary Ayurvedic Formulary." *Asian Medicine* 9 (2014): 12–48.
- Naqvi, Nasim H. "Surgical Instruments in the Taxila Museum." *Medical History* 47, no. 1 (2003): 89–98.
- Naqvi, Nasim H. *A Study of Buddhist Medicine and Surgery in Gandhara*. Delhi: Motilal Banarsidass Publishers, 2011.
- Nicander, Andrew Sydenham Farrar Gow, and A. F. Scholfield, *Poems and Poetical Fragments*. Cambridge: University Press, 1953.
- Obeyesekere, Gananath. "Hindu Medicine and the Aroma of Structuralism." *Journal of Religion* 70, no. 3 (1991): 419–425.
- Olivelle, Patrick. "Caste and Purity: A Study in the Language of the Dharma Literature." *Contributions to Indian Sociology* 32, no. 2 (1998): 208–209.
- Olivelle, Patrick. "Explorations in the Early History of Dharmasāstra." In *Between the Empires: Society in India 300 B.C.E. to 400 C.E.*, edited by Patrick Olivelle, 169–190. Oxford: Oxford University Press, 2006.
- Olivelle, Patrick. "From Trivarga to Puruṣārtha: A Chapter in Indian Moral Philosophy." *Journal of the American Oriental Society* 139, no. 2 (2019): 381–396.
- Olivelle, Patrick. *King, Governance, and Law in Ancient India: Kauṭilya's Arthasāstra: A New Annotated Translation*. New York: Oxford University Press, 2013.
- Olivelle, Patrick. "The Medical Profession in Ancient India: Its Social, Religious, and Legal Status." *eJournal of Indian Medicine* 9 (2017): 1–21.
- Olivelle, Patrick and Suman Olivelle. *Manu's Code of Law: A Critical Edition and Translation of the Mānava-Dharmaśāstra*. South Asia Research. Oxford: Oxford University Press, 2005.
- Panikkar, K. N. "Indigenous Medicine and Cultural Hegemony: A Study of the Revitalization Movement in Kerala." *Studies in History* 8, no. 2 (1992): 283–308.
- Pāṇini and S. M. Katre. *Aṣṭādhyāyī of Pāṇini*. Texas Linguistics Series. 1st ed. Austin: University of Texas Press, 1987.

- Papavramidou, N. and H. Christopoulou-Aletra, “Medicinal Use of Leeches in the Texts of Ancient Greek, Roman and Early Byzantine Writers.” *Internal Medicine Journal* 39, no. 9 (2009): 624–627.
- Parimannan, Sivachandran, Rajandas Heera, Pattabhiraman Lalitha, Manickam Ravichandran, Shalini Sivadasan, and Kasi Marimuthu. “An Overview of Leech and Its Therapeutic Applications.” *Journal of Coastal Life Medicine* 3, no. 5 (2015): 405–413.
- Pecchia, Cristina. “Transmitting the Carakasamhitā. Notes for a History of the Tradition.” In *Medical Texts and Manuscripts in Indian Cultural History*, edited by Dominik Wujastyk, Anthony Cerulli and Karen Preisendanz, 1–28. New Delhi: Manohar, 2009.
- Pickering, Andrew, “The Mangle of Practice: Agency and Emergence in the Sociology of Science.” *American Journal of Sociology* 99, no. 3 (1993): 559–589.
- Potter, Karl H. *Indian Metaphysics and Epistemology : The Tradition of Nyāya-Vaiśeṣika up to Gaṅgesa.* Encyclopedia of Indian Philosophies. Delhi: Motilal Banarsidass, 1977.
- Pollock, Sheldon. *The Language of the Gods in the World of Men: Sanskrit, Culture, and Power in Premodern India.* Berkeley: University of California Press, 2006.
- Pollock, Sheldon. “The Theory of Practice and the Practice of Theory in Indian Intellectual History.” *Journal of the American Oriental Society* 105, no. 3 (1985): 499–519.
- Preisendanz, Karin. “On *Ātmendriyamanorthasannikarṣa* and the Nyāya-Vaiśeṣika Theory of Vision.” *Berliner indologische Studien* 4, no. 5 (1989): 141–213.
- Preisendanz, Karin. “Between Affirmation and Rejection: Attitudes Towards the Body in Ancient South Asia from the R̥g Veda to Early Classical Medicine.” In *Thinking the Body as a Basis, Provocation and Burden of Life: Studies in Intercultural and Historical Contexts*, edited by Carlos Ruta and Gurt Melville, 113–144. Oldenbourg: De Gruyter, 2015.
- Preisendanz, Karin. “The Initiation of the Medical Student in Early Classical Ayurveda: Caraka's Treatment in Context.” In *Pramāṇakīrtiḥ: Papers Dedicated to Ernst Steinkellner on the Occasion of His 70th Birthday*, edited by B. Kellner, H. Krasser, H. Lasic, M. T. Much and H. Tauscher, 629–668. Wien: Wiener Studien zur Tibetologie und Buddhismuskunde 2007.
- Preisendanz, Karin. “Logic, Debate and Epistemology in Ancient Indian Medical Science—An Investigation into the History and Historiography of Indian Philosophy.” *Indian Journal of History of Science* 44, no. 2 (2009): 261–312.
- Prentice, Rachel. *Bodies in Formation: An Ethnography of Anatomy and Surgery Education.* Experimental Futures. Durham, NC: Duke University Press, 2013.
- Puig de la Bellacasa, María. “Touching Technologies, Touching Visions. The Reclaiming of Sensorial Experience and the Politics of Speculative Thinking.” *Subjectivity* 28, no. 1 (2009): 297–315.
- Ranade, Subhash and Sachin Kuber. *Ayurvedic Clinical Diagnosis with Modern Perspective.* Delhi: Chaukhamba Sanskrit Pratisthan, 2010.
- Rastogi, Sanjeev and Priyanka Chaudhari. “Authors' Response: Ayurvedic Methods of Adversity Control Following Leech Application.” *Journal of Ayurveda and Integrative Medicine* 5, no. 4 (2014): 261.
- Roberts, Lissa, Simon Schaffer, and Peter Dear. *The Mindful Hand: Inquiry and Invention From the Late Renaissance to Early Industrialisation.* Amsterdam: Koninklijke Nederlandse Akademie van Wetenschappen, 2007.



- Sankaranarayana, Manoj. "Texts and Physicians in Keralan Ayurveda: The Case of the Rescue Clyster." In *Medical Texts & Manuscripts in Indian Cultural History*, edited by Anthony M. Cerulli, Dominik Wujastyk, and Karin Preisendanz, 195–220. New Delhi: Manohar, 2013.
- Sawhney, Simona. *The Modernity of Sanskrit*. University of Minnesota Press, 2009.
- Sawyer, Roy T. "The Trade in Medicinal Leeches in the Southern Indian Ocean in the Nineteenth Century." *Medical History* 43, no. 2 (1999): 241–245.
- Sawyer, Roy T. "Why We Need to Save the Medicinal Leech." *Oryx* 16, no. 2 (1981): 165–168.
- Scharfe, Hartmut. "The Doctrine of the Three Humors in Traditional Indian Medicine and the Alleged Antiquity of Tamil Siddha Medicine." *Journal of the American Oriental Society* 119, no. 4 (1999): 602–629.
- Schmithausen, Lambert. *Plants in Early Buddhism and the Far Eastern Idea of the Buddha-Nature of Grasses and Trees*. Lumbini: Lumbini International Research Institute, 2009.
- Selby, Martha. "Between Medicine and Religion: Discursive Shifts in Early āyurvedic Narratives of Conception and Gestation," *Divins Remèdes: Médecine et Religion en Asie du Sud, Puruṣārtha* 27 (2008): 41–63.
- Selby, Martha. "Narratives of Conception, Gestation, and Labour in Sanskrit Ayurvedic Texts," *Asian Medicine* 1, no. 2 (2005): 254–75.
- Selby, Martha. "On Anatomical Enumeration and Difference in Early Sanskrit Medical Literature." *Asian Medicine* 14, no. 2 (2020): 263–276.
- Scott-Smith, Tom. "Sticky Technologies: Plumpy'nut®, Emergency Feeding and the Viscosity of Humanitarian Design." *Social Studies of Science* 48, no. 1 (2017): 3–24.
- Senthilkumaran, Subramanian, Florence Benita, Ritesh Menezes, and Ponniah Thirumalaikolundusubramanian. "Leech Therapy and Infection Control: No Clear Window." *Journal of Ayurveda and Integrative Medicine* 5, no. 4 (2014): 260.
- Sharma, Priya Vrat. *Caraka-Cintana (A Historical Study of Caraka Saṃhitā)* (Hindi). Varanasi: Chowkhamba Vidyabhawan, 1970.
- Sharma, Priya Vrat. *Caraka-Saṃhitā Agniveśa's Treatise Refined and Annotated by Caraka and Redacted by Drḍhabala (Text with English Translation)*. Delhi: Chaukhambha Orientalia, 2003.
- Sharma, Priya Vrat. *Indian Medicine in the Classical Age*. Chowkhamba Sanskrit Studies. Varanasi: Chowkhamba Sanskrit Series Office, 1972.
- Sharma, Priya Vrat. *Suśrutasaṃhitā, with English Translation of Text and Ḍalhaṇa's Commentary along with Critical Notes*. 3 vols. Varanasi, Chaukhambha Visvabharati, 1999–2001.
- Sharma, Priya Vrat, Rāma Karaṇa Śarmā, and Bhagwan Dash. *Caraka Saṃhitā: Agniveśa's Treatise Refined and Annotated by Caraka and Redacted by Drḍhabala: Text with English Translation*. 7 vols. Chaukhambha Orientalia, 2007.
- Shivakumar, C. "Chennai Lost a Third of Wetlands in a Decade, Finds Anna University Study." *The New Indian Express*, Mar. 9, 2018. <http://www.newindianexpress.com/cities/chennai/2018/mar/09/chennai-lost-a-third-of-wetlands-in-a-decade-finds-anna-university-study-1784323.html>.
- Shrikantha Murthy, K. R. *Vāgbhāṭa's Aṣṭāṅga Hṛdayam: Text, English Translation, Notes, Appendix, and Indices*. 3 vols. Varanasi: Krishnadas Academy, 1991–1995.
- Shrikantha Murthy, K. R. *Aṣṭāṅga Samgraha of Vāgbhāṭa: Text, English Translation, Notes, Appendix, and Indices, Etc.* 3 vols. Varanasi: Chaukhambha Orientalia, 1995–1997.

- Shulman, Eviatar. "Early Meanings of Dependent-Origination." *Journal of Indian Philosophy* 36, no. 2 (2008): 297–317.
- Smith, Frederick M. *The Self Possessed: Deity and Spirit Possession in South Asian Literature and Civilization*. New York: Columbia University Press, 2006.
- Smith, Mark. *Sensing the Past: Seeing, Hearing, Smelling, Tasting, and Touching in History*. Berkeley: University of California Press, 2007.
- Spivak, Gayatri Chakravorty. "The Politics of Translation (1992)." In *The Translation Studies Reader*, edited by Lawrence Venuti, 369–368. New York: Routledge.
- Spivak, Gayatri Chakravorty. "Translation as Culture." *parallax* 6, no. 1 (2000): 13–24.
- Subramaniam, Banu. *Holy Science: The Biopolitics of Hindu Nationalism*. Seattle: University of Washington Press, 2019.
- Śūdraka. *The Little Clay Cart* [in English and Sanskrit]. The Clay Sanskrit Library. Translated by Diwakar Acharya. New York: New York University Press, 2009.
- Sule, Manjiri and Shirish Kavadi. "The Reality of Ayurveda Medical Practice with Some Observations from the Field." *Foundation for Research in Community Health Newsletter* 7, no. 5 (1993): 8–10.
- Suśruta, Dalhaṇa, and P. V. Sharma, *Suśruta-Saṃhitā: With English Translation of Text and Dalhaṇa's Commentary Along with Critical Notes* [in English and Sanskrit]. Haridas Ayurveda Series. vols. 1–3. Varanasi: Chaukhambha Visvabharati, 1999.
- Talim, Meena. *Science of Medicine and Surgery in Buddhist India*. Delhi: Buddhist World Press, 2009.
- Thapar, Romila. *Early India: From the Origins to AD 1300*. Berkeley: University of California Press, 2003.
- Thapar, Romila. "Imagined Religious Communities? Ancient History and the Modern Search for a Hindu Identity." *Modern Asian Studies* 23, no. 2 (1989): 209–231.
- Tsing, Anna. "Arts of Inclusion, or How to Love a Mushroom." *Manoa* 22, no. 2 (2010): 191–203.
- Tsing, Anna. "Worlding the Matsutake Diaspora: Or, Can Actor–Network Theory Experiment With Holism?" In *Experiments in Holism: Theory and Practice in Contemporary Anthropology*, edited by Nils Bubandt and Ton Otto, 47–66. John Wiley & Sons, 2010.
- Vaidyan, P. M. Govindan. *Ashtāṅgahrudayam Sutrasthānam*. Kodalungallur: Devi Book Stall, 2015.
- Vartika, Poonam Kakkar, Jyotsna Singh, Chetna Misra, Santosh Kumar, and Shanta Mehrotra, "Toxic Metals and Organochlorine Pesticides Residue in Single Herbal Drugs Used in Important Ayurvedic Formulation–'Dashmoola.'" *Environmental Monitoring and Assessment* 143 (2008): 273–277.
- Vatsyayana. *Kamasutra (A New, Complete English Translation of the Sanskrit Text)*. Edited and translated by Wendy Doniger and Sudhir Kakar. Oxford; New York: Oxford University Press, 2002.
- Von Rospatt, Alexander. *The Buddhist Doctrine of Momentariness a Survey of the Origins and Early Phase of This Doctrine up to Vasubandhu*. Stuttgart: Franz Steiner Verlag. 1995.
- Westfell, P. P. *On the Leech and Its Use in Medicine*, MD Diss, Faculty of Medicine Basel, 1949.
- Whitaker, Iain S., J. Rao, D. Izadi, and P. E. Butler. "Historical Article: Hirudo Medicinalis: Ancient Origins of, and Trends in the Use of Medicinal Leeches Throughout History." *British Journal of Oral and Maxillofacial Surgery* 42, no. 2 (2004): 133–37.

- Whitney, William Dwight. *The Roots, Verb-Forms and Primary Derivatives of the Sanskrit Language*. New Delhi: Motilal Banarsidass Publishers Private Limited, 2006.
- Williams, Paul, and Anthony Tribe. *Buddhist Thought: A Complete Introduction to the Indian Tradition*. New York: Routledge, 2000.
- Wittke-Michalsen, Ellen, “The History of Leech Therapy.” In *Medicinal Leech Therapy*, edited by Andreas Michalsen, M. Roth, and G. J. Dobos, 4–12. Stuttgart: Thieme, 2011.
- Wolfgram, Matthew. “Truth Claims and Disputes in Ayurveda Medical Science.” *Journal of Linguistic Anthropology* 20, no. 1 (June 2010): 149–165.
- Wujastyk, Dominik. “Agni and Soma: A Universal Classification.” *Studia Asiatica* 4 (2004): 347–369.
- Wujastyk, Dominik. “The Evolution of Indian Government Policy on Ayurveda in the Twentieth Century.” In *Modern and Global Ayurveda: Pluralism and Paradigms*, edited by Dagmar Wujastyk and Frederick M. Smith, 43–76. Albany: State University of New York Press, 2008.
- Wujastyk, Dominik. “Introduction.” In *Contagion: Perspectives from Pre-Modern Societies*, edited by Dominik Wujastyk and Lawrence I. Conrad, ix–xviii. Aldershot: Ashgate, 2000.
- Wujastyk, Dominik. “Medical Error and Medical Truth: The Placebo Effect and Room for Choice in Ayurveda,” *Health, Culture and Society* 1, no. 1 (2011): 221–231.
- Wujastyk, Dominik. “Medicine in India.” In *Oriental Medicine, An Illustrated Guide to the Asian Arts of Healing*, edited by Jan van Alphen, Anthony Aris and Danielle Gourevitch, 18–37. London: Serendia Publications, 1997.
- Wujastyk, Dominik. “New Manuscript Evidence for the Textual and Cultural History of Early Classical Indian Medicine.” In *Medical Texts and Manuscripts in Indian Cultural History*, edited by Anthony Cerulli, Dominik Wujastyk, and Karin Preisendanz, 141–158. New Delhi: Manohar, 2013.
- Wujastyk, Dominik. “The Path to Liberation through Yogic Mindfulness in Early Āyurveda.” In *Yoga in Practice*, edited by David G. White, 31–42. Princeton: Princeton University Press, 2011.
- Wujastyk, Dominik. *The Roots of Ayurveda: Selections from Sanskrit Medical Writings*. Penguin Classics. Rev.ed. London; New York: Penguin Books, 2003.
- Wujastyk, Dagmar. *Well-Mannered Medicine: Medical Ethics and Etiquette in Classical Ayurveda*. Oxford University Press, 2012.
- Wujastyk, Dominik. “What is Vimāna in the Context of the *Carakasamhitā*?” Paper presented at the International Congress on Traditional Asian Medicines, Kiel Germany. August 9, 2017.
- Yamashita, Tsutomu, and P. Ram Manohar. “Memoirs of Vaidyas. The Lives and Practices of Traditional Medical Doctors in Kerala, India (4).” *eJournal of Indian Medicine* 3, no. 1 (2010): 23–52.
- Zarrilli, Phillip B. *When the Body Becomes All Eyes: Paradigms, Discourses, and Practices of Power in Kalarippayattu, a South Indian Martial Art*. Delhi; New York: Oxford University Press, 1998.
- Zimmerman, Francis. “Gentle Purge: The Flower Power of Āyurveda.” In *Paths to Asian Medical Knowledge*, edited by Charles Leslie and Allan Young, 209–223. Berkeley: University of California Press, 1992.
- Zimmerman, Francis. *The Jungle and the Aroma of Meats: An Ecological Theme in Hindu Medicine*. Comparative Studies of Health Systems and Medical Care, Vol. 20. Berkeley,

- University of California Press, 1987.
- Zysk, Kenneth G. *Asceticism and Healing in Ancient India: Medicine in the Buddhist Monastery*. 1991. Reprint. New York: Oxford University Press, 2000.
- Zysk, Kenneth G. "Does Ancient Indian Medicine Have a Theory of Contagion." In *Contagion: Perspectives from Pre-Modern Societies*, edited by Dominik Wujastyk and Lawrence I. Conrad, 79–95. Aldershot: Ashgate, 2000.
- Zysk, Kenneth G. "The Evolution of Anatomical Knowledge in Ancient India, with Special Reference to Cross-Cultural Influences." *Journal of the American Oriental Society* 106, no. 4 (1986) 687–705.
- Zysk, Kenneth G. "An Indologist Looks at Siddha Medicine in Tamilnadu." In *Medical Texts and Manuscripts in Indian Cultural History*, edited by Dominik Wujastyk, Anthony Michael Cerulli and Karin Preisendanz, 181–194. Delhi: Manohar, 2013.
- Zysk, Kenneth G. "Sanskrit Commentaries on the Carakasamhitā with Special Reference to Jajjāṭa's Nirantarapadavyākhyā." *eJIM-eJournal of Indian Medicine* 2, no. 3 (2009): 83–99.