THE GLOBALIZATION OF MEDICINE: A LOOK AT AYURVEDA’S INCREASING PRESCENCE IN BIOMEDICINE

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Abstract

This thesis examines the rich history, principles, and methodology of the traditional Indian medical system called Ayurvedic medicine, how it is being adapted through its contact with biomedicine, and how it is presently being practiced in India. The earliest evidence of healthcare in India can be traced to the Dravidian civilization of the Indus River Valley more than 4,500 years ago. However, the written origins of Indian medical practices emerge out of the earliest primary texts of Hinduism compiled about 3,500 years ago*.* It is in these texts that the central concepts of Ayurveda are first mentioned, including the three *doṣas* or humors, dimensions of the body that must be in balance in order for a person to experience good health. Subsequent Hindu scriptures consider how health and spirituality are related to each other and reveal the historical development of Ayurvedic medical principles. It is from this religious context that Ayurveda emerges as a systematic medical tradition in approximately 450 BCE.

Ayurveda has proven to be a dynamic tradition, responding to ever-changing cultural influences and historical movements. However, as new practices have been assimilated into the tradition, old ones are preserved or adapted. As a consequence, Ayurveda has remained current and meaningful to people throughout the centuries, and it has endured as a medical practice in India for over 2,500 years. More recently, the mutual influence and convergence of ideas between cultures and religions has led to the globalization of medicine. The increasing interaction between Ayurvedic medicine and biomedicine provides a fascinating case study of such intercultural exchanges. In this study, I will explore these interactions through the examination of Ayurvedic practices and principles relating to reproductive medicine, both through textual analysis and field research in India.

Introduction

Ayurveda, derived from the Sanskrit term meaning the sacred knowledge (*veda)* of longevity (*ayus),* is the ancient indigenous system of medical care in India. Hundreds of millions of Indians continue to avail themselves of the powerful treatments of Ayurvedic medicine, but it has undergone a series of changes since it originated. The earliest evidence of healthcare in India can be found in the Dravidian civilization of the Indus River Valley more than 4,500 years ago. Around 2,300 BCE, the strains of increased migration and urbanization of the Indus River Valley Civilization caused significant social and biological changes. Archaeological evidence indicates that this civilization was deeply concerned with health and sanitation, which led to the construction of developed drainage systems within the city and homes.[[1]](#footnote-1) However, molecular and bioarchaeological analysis of skeletal remains indicate that the prevalence of disease increased due to overcrowding and poor sanitation, driving both the overall decline of the civilization and the need for enhanced medical knowledge.[[2]](#footnote-2)

Undoubtedly deriving from far more ancient folk medical practices, the Dravidian term for their medical system seems to have been Siddha medicine. Those practices, along with an ongoing stream of contributions from India’s invaders and visitors, as well as indigenous innovations, have evolved over the centuries to what is now referred to as Ayurvedic medicine.

The written origins of Indian medical practices emerge out of the earliest primary texts of Hinduism, the four *Vedas*: *Rig, Atharva, Yajur*, and *Sama.* These scriptures, in both oral and written forms, have been preserved with great fidelity over the centuries, although the ongoing commentarial tradition has continued to breathe new meaning into them. Comprised of 10 books and 10,572 hymns in praise of various gods, the *Rig Veda* is the oldest Hindu scripture, taking a written form in about 1500 BCE.[[3]](#footnote-3) In this text, these Vedic gods are admired for their ability to protect and heal. It is in the *Rig Veda* that the central concepts of Ayurveda are first mentioned.

The conceptual foundation of Ayurvedic medicine, first introduced in the *Rig Veda*, is the three *doṣas* or humors, three dimensions of the body that must be in balance in order for a person to experience good health. The three humorsare *vata*, *pitta,* and *kapha,* which correspond to the physical elements of the universe: air, fire, and water.

The *Atharva Veda,* written in about 1000 BCE, describes various diseases and remedies for them. While the names of the other three *Vedas* derive from their contents, the *Atharva* *Veda* is named after the priest Atharvan, who is mentioned in the *Rig Veda* as the first priest to invoke *Agni*, the god of fire, in order to “[establish] ways of communication between God and men.”[[4]](#footnote-4) According to the narrative, by virtue of his performance of sacrificial rites, various gods bestowed holy capacities on Atharvan, empowering him to perform miracles. The origins of this *Veda’s* name perhaps suggests the priest’s role as a medium between this world and the world of the gods. In Vedic medicine, the intermediary role of the priest becomes essential in healing rituals. The *Atharva Veda* contains descriptions of priestly medicine, where a religious leader facilitates healing by reciting incantations, spells, and ceremonial offerings to rid the body of a disease. In the early parts of the *Atharva Veda,* disease was often depicted as a demon possessing the body, and so curative efforts involved the placation of deities. For example, there is a charm for dysentery that gives praise to *Prithvi*, the earth, as well as *Indra*, the god associated with the wind element.

However, in the later verses of the *Veda* there are mentions of the use of plants and distinct pharmacological substances that are useful in addressing specific causes of disease, indicating that disease were coming to be understood as having physical causes rather than spiritual causes. The *Atharva Veda* describes the origins of a disease as deriving from three sources: *vataja* (from wind), *susmaja* (from desiccation) and *abhraja* (from clouds or moisture).[[5]](#footnote-5) Using slightly different terminology, the *Atharva Veda* reinforces the *Rig Veda’s* language of the three humors; *abhraja, vataja,* and *susmaja* correspond to water, air, and fire, respectively.

The people of the Vedic period were concerned with the cause and treatment of illness. The *Rig* and *Atharva Vedas*, which display an increasingly complex system of medicine, begin to recognize causes of disease, such as congenital factors, seasonal changes, and microorganisms, and remedies for fractures and other more serious illnesses, such as urinary tract infections, dysentery, and tuberculosis. Alongside these ideas of health and disease—with notions of causality recognizable to those familiar with modern biomedicine—the *Vedas* continue to emphasize forms of healing that utilize religious sacrificial rituals facilitated by priests. These rituals are perceived as means through which a priest promotes human health and happiness by providing gods and goddesses with what they need.

An underlying motivation for the performance of these sacrificial rites is the fear of death. The possibility of a separate world for the dead is first mentioned in the *Vedas*; the *Brāhmaṇas,* written around 800 BCE, describe sacrificial rites as the means by which one can avoid old age and death to attain immortality. The *Brāhmaṇas* continue the Vedic spiritual concern with health, disease, and longevity through religious practices.

Just as the *Brāhmaṇas* are commentaries on the *Vedas*, similarly the *Upaniṣads,* compiled from approximately 900-300 BCE, are commentaries that record the insights of ascetic communities. The *Upaniṣads*, like the *Vedas* and *Brāhmaṇas*, are said to be divinely revealed knowledge or *śrūti*, and they advance considerations of how health and spirituality intertwine.

The *Upaniṣads* represent a major shift in Indic religious thinking and a democratization of religion. Previously during the Vedic period, the status of people’s births determined their access to religious knowledge and practices. However, the Upaniṣadic period provided broader access to sacred knowledge. These texts emphasize the ability of any person to gain *mokṣa* or enlightenment through various practices including the acquisition of knowledge. One form of liberative knowledge is the awareness that the personal, individual self-known as *ātman*, is non-other than the universal *brahman* that underlies all forms of reality.

The *Bṛhad-āraṇyaka Upaniṣad* is considered to be one of the oldest Upaniṣads, composed around 700 BCE.[[6]](#footnote-6) It is divided into three sections that discuss the identity of the individual in relation to the Universal Self (*brahman)*, the philosophical basis of the teachings, and modes of worship and meditation. The existence of *prana,* or primal breath, in all living beings is first mentioned in the *Rig Veda*, and the *Bṛhad-āraṇyaka Upaniṣad* further explains the importance of “life breath” and its connection to the six bodily functions. This primordial breath is depicted as the deepest and most vital force.

The *Chāndogya Upaniṣad*, written between the eighth and sixth centuries BCE, together with the *Bṛhad-āraṇyaka Upaniṣad,* is thought to stand out amongst all the other *Upaniṣads* as being the most informative in terms of all aspects of human existence.[[7]](#footnote-7) Each chapter of the *Chāndogya Upaniṣad* describes different forms of meditation and knowledge that help the mind rise above everyday experiences in order to attain liberation from the cycle of birth and death. These teachings eventually culminate in the knowledge of the Personal Self (*ātman)*.

This *Upaniṣad*, also characterizes the five bodily functions or senses as disputing with one another over which is superior. The senses plead with *Brahmā*, the creator god, to declare which is most superior, and he replies, “The one of you is most excellent after whose departure this body is thought worst off.”[[8]](#footnote-8) Each sense leaves the body, yet the body survives until the absence of the primal breath. This narrative reveals that the body can exist without any of the senses, except the breath, which exists in all of the senses. Meditating on “life breath” is said to be essential because all life rises from it, the primal breath unites everything, and it protects the body from wounds. The texts argues that one can attain release from the cycle of birth and re-birth by understanding the importance of the primordial breath and its existence in all beings.

The course of the soul after life is described in great detail in the *Chāndogya Upaniṣad*. A theory known as the *Panchagni-Vidyā* explains the “inner meaning of the common phenomenon of birth and death.”[[9]](#footnote-9) There are five ritualized processes known as the Five Fires, (*Panchagni)*, which are performed to attain these various forms of knowledge. The first sacrifice is in the form of a universal vibration into the celestial heaven. The second form of sacrifice is the movement of the heavenly vibrations into the lower realms in the form of rain. The third sacrifice is the “grosser manifestations of the world” or the events that take place on earth. The fourth form of sacrifice involves man who consumes the products of the earth and energizes himself. The fifth and final sacrifice is the union between man and woman that produces a child.

These five fires represent five forms of knowledge that explain the existence of life on earth. The interplay between these abstract forms of knowledge and the concrete performance of the sacrifices reveals the interconnectedness of these processes.

The physical form, in which these sacrifices take place, consists of a sacred altar in which a sacrificial fire is light and holy oblations are offered. This sacrifice is known as a *yajña*, and as the sacrifice takes place, the performer of the rite recites *mantras* or holy chants that express his or her intentions behind the rite. Typically, this type of sacrifice will be performed in order to invoke the presence of a particular deity. The *Chāndogya Upaniṣad* states that all of creation is produced from this type of sacrifice. The cycle of birth and death is also a result of this sacrifice.

The *Bṛhad-āraṇyaka Upaniṣad* describes incantations and rituals that must be completed in order for procreation to take place. The passage begins with a description of the creation of man and his semen. Lord *Prājapati*, the lord of creation, says:

Come, let me provide him a firm basis! So he created woman. When he had created her, he revered her below. Therefore, one should revere woman below. He stretched out for himself that stone which projects. With that he impregnated her (4:6).[[10]](#footnote-10)

This section of the *Upaniṣad* goes on to describe a woman’s reproductive system:

Her lap is a sacrificial altar; her hairs, the sacrificial grass; her skin, the soma-press. The two labia of the vulva are the fire in the middle. Verily, indeed, as great as is the world of him who sacrifices with the Vājapeya ('Strength-libation') sacrifice, so great is the world of him who practices sexual intercourse, knowing this; he turns the good deeds of women to himself. But he who practices sexual intercourse without knowing this-women turn his good deeds unto themselves (sic) (4:6).[[11]](#footnote-11)

The woman’s reproductive system is analogized to a sacrificial fire in which “the god[s] offer the libation of semen.” From this unity of fire and water, a fetus emerges. The *Chāndogya Upaniṣad* describes all of creation as being a result of a sacrifice where there is a sacred altar in which holy oblations are given into a sacred fire. This explains and reinforces the *Bṛhad-āraṇyaka Upaniṣads* analogy of the women’s reproductive system to a sacrificial altar.

The *Upaniṣads* focus a great deal on the interconnectedness of the entire cosmos. The conduct of a person’s past lives determines a their status in birth, and release from the human condition is difficult to attain at death. The birth of a child is not a “private act,” but a universal, interconnected process that involves the entire cosmos. Sacrifice is, therefore, considered to be the means by which one can recognize the higher forces and values that are control the visible world. It is the “essence of all creative processes.”[[12]](#footnote-12)

During the Upaniṣadic period, there was a progression of thought that not only explained the cycle of birth and death, but also the connection between the mind, body, and celestial realm. The body, internally and externally, is intimately connected to all aspects of nature such as the moon, wind, and stars. These texts suggest that the ways in which human live influences the activities of the external world, and the activity of the world influences humans as well. Within all forms of creation there are different variations of vibration that interact and influence one another. These ideas regarding the unity between the mind, body, nature, and senses offered by the Upaniṣads expanded Indic medical thinking and knowledge.

It is from this religious context that Ayurveda emerges as a coherent medical tradition in India around 450 BCE.[[13]](#footnote-13) There are four classic texts that are considered to provide the foundation of Ayurveda: *Caraka Samhita*, *Susruta Samhita*, *Ashtanga Hridayam*, and *Ashtanga Sangraha*.[[14]](#footnote-14) These texts divide Ayurvedic medicine into two branches: the School of Physicians and the School of Surgeons. The School of Physicians leader, Carak, is also the compiler of the *Carak Samhita*, which describes the fundamental principles of Ayurveda, as well as outlines more that 200 diseases, 150 pathological conditions, congenital defects, and methods of diagnosis. The *Susruta Samhita*, the primary text for the School of Surgeons, gives detailed accounts of anatomy and physiology, surgical equipment, and treatment of wounds, fractures, and other conditions.[[15]](#footnote-15) The *Ashtanga Hridayam* and *Ashtanga Sangraha* are considered to be written by a Buddhist sage named Vagbhata, and they summarize and expand on concepts discussed in the earlier two texts.

Written by Patañjali, around the 2nd century BCE, the *Yoga Sūtras* assert that through the practice of yoga one can attain freedom from the cycle of birth and rebirth. The restlessness and distraction of the mind hinders this realization. In these scriptures, nine obstacles are described as causing the distraction of the mind. The first of these obstacles is sickness, which is claimed to be caused due to an imbalance within the body. When the body is not in a fit state, the mind is unable to fully concentrate, and yoga cannot be performed effectively. The most important action a person can take to prevent illness is maintaining a balanced diet.

The *Yoga Sūtras* elaborate the concept of the three *gunas* or qualities. *Sattvas, rajas,* and *tamas*—creation, abiding, and destruction—respectively are the three qualities that are said to reside in all knowable objects. In addition, they are regarded as the constituent materials that form the external and internal organs.

The *Yoga Sūtras* divide the external organs into two groups: organs of action and organs of inaction. These two subclasses of organs can be further divided into five groups, each of which is controlled by a specific *prāṇa* or vital force. The three *gunas* are said to be in a constant state of flux, which “is the root cause of the mutations the organs (both internal and external) constantly undergo.”[[16]](#footnote-16) The text goes on to explain that the organs that deal with cognition and sense are *sattava*-like in nature, the organs of action are *raja*-like, and the five *prāṇas* are *tamas*-like.

Table 1.1: The Function of the Five *Prāṇas* in the *Yoga Sūtras*

|  |  |
| --- | --- |
| ***Prana* (Vital Force)** | **Function:** |
| *Prana* | Sustains organs of perception |
| *Udana* | Sustains the tissues of the body |
| *Vyana* | Sustains organs of movement |
| *Apana* | Sustains functions of excrement and elimination |
| *Samana* | Sustains the power of assimilation |

The *Yoga Sūtras* describe two forms of *karma*: actions performed knowingly and actions performed unknowingly. All of the actions of the body and organs are determined by a person’s will and impulses. The consequences of these actions manifest at birth, determines life span, and mediates the body’s experience of pleasure and pain.[[17]](#footnote-17) Previous literature elaborated rituals and offerings to deities as methods of preserving health. However, it is with the *Yoga Sūtras* thatconceptions of the body, connections between the mind and the body, and their mutual influences become more sophisticated, and a mature medical system emerges.

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Ayurveda has proven to be a dynamic tradition, responding to ever-changing cultural influences and historical movements. The source of influences on this body of medical tradition extended from Iran to China, and it was deeply affected by contemporaneous Buddhist and Hindu ascetic and contemplative practices of northern India. Analysis of the fundamental principles and methodologies of Ayurveda suggest that there are significant similarities between Ayurvedic medicine and other Asian medical systems. As this complex medical tradition developed, in more recent centuries, Islamic and colonial influences were incorporated into the tradition as well. As new practices were assimilated into the tradition, old ones were preserved, allowing Ayurveda to maintain its central principles, such as the three humors (*doṣas*). As a consequence of this adaptability, it has remained current and meaningful to people throughout the centuries, and has endured as a medical practice in India for over 2,500 years.

Even though Ayurveda has maintained a lasting presence throughout history in India as a medical practice, it has not been a topic of interest for academic humanities and social science research until the 1970s.[[18]](#footnote-18) The 1960s was a time period characterized by the final gasps of colonialism, and there was an apparent shift in the way in which people who were colonized were perceived. People who were once colonized were now valued more than in the past and not seen as being dependent on colonizers. This change in perception, in junction with increases in mass communication, and immigration were catalysts for the process of globalization. These various factors fostered a more globalized world in which it became possible for scholars to study diverse ideologies in a variety of contexts. The globalization of medicine has occurred due to the interaction of many forces including the mutual influence and convergence of ideas between cultures and religions. Those forces have permitted a greater interaction between interaction of Ayurvedic medicine and biomedicine. And the flexibility of Ayurveda throughout the millennia enables it to evolve anew in its present encounters biomedicine.

Historical Progression of Ayurvedic Principles Through Hindu Scripture

Claude Levi-Strauss, a renowned French anthropologist, established the theory of structuralism, which is rooted in the idea that there are immutable deep structures that create the foundation of all cultures so that there are homologous counterparts in other cultures. Levi-Strauss’s theory could be applied not only cross culturally, but also intra-culturally. What he noticed was that within a single culture it was possible to observe homologies that were used to create sophisticated structures and patterns of thinking within culture. This type of analogic thinking is the underlying creativity of a significant range of religious thought[[19]](#footnote-19).

In the 1940s, the French scholar Georges Dumézil observed an example of this type of thinking. He discovered that a tripartite division of classes existed in various Indo-European cultures or societies. The first, and highest, division consists of the priests who act as mediators between the gods and humans. This first classification is characterized by ideals of purity, morality, justice, and sacrality. The second class of society is known as the warriors, which is associated with ideals of protection, heroism, and self-sacrifice. The final societal group is known as the producers who provide the support for the other two classes. This class represents values of fecundity and feminity.[[20]](#footnote-20)

This pan-Indo-European tripartite structure is reflected in a particularly Indian mode through the caste system, which is described in the *Vedas* as consisting of *Brahmins* (priests), *Kṣatriyas* (warriors), and *Vaiṣyas* (producers). These castes are analogized to the human body with the priests representing the head, the warriors representing the torso, and the producers the feet. The absence of one of these castes would not allow for the proper functioning of society. Dumezil noticed this tripartite structure in many aspects of mythology and ideology across the Indo-European world, and he found that these social structures are repeatedly echoed on many other levels of Indic thought through rituals, narratives, taboos, and social rules.

Table 1.2: Example of Dumezil’s Tripartite Theory

|  |  |
| --- | --- |
| **Indian Caste System** | **Role in Society** |
| *Brahmins* | Priest |
| *Kshatriyas* | Warriors |
| *Vaisyas* | Producers |

Ayurvedic thought also includes these diverse homologic parallelisms as in the case in other Hindu scriptures many other homologic patterns emerge. For example, these ancient scriptures describe three great cosmic forces that are the basis of the entire universe. The first principle is called *Prāṇa,* the primal breath, which has been described above, is the energy of life. The second cosmic dynamic is J*yoti*, or light, which represents the movement of energy through the universe. The third force describes a unity that exists within the entire universe producing a single rhythm of existence. This cohesive quality manifests itself in the power of *Prema* or love.

The *Rig Veda* mentions three gods that correspond to these three great cosmic forces. *Indra* is associated with the primal breath and power of life as the leader of the gods. *Agni*, the god of fire, sacrifice, and transformation, represents the eternal light of the universe. *Soma*, “the nectar of immortality,” represents the power of love.[[21]](#footnote-21) These three cosmic forces must be maintained in a delicate balance, and the *Vedas* describe mantras, sacrifices, and rituals that are intended to preserve the universe through the propitiation of these gods.

Table 1.3: Analogic Thinking in the *Vedas*

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Cosmic Force** | **Vedic God** | **Element** | **Humors**  **(*Atharva Veda)*** | **Humor (Ayurveda)** |
| *Prāṇa* (primal breath) | *Indra* | Air | *Vataja* | *Vata* |
| *Joyti* (light) | *Agni* | Fire | *Susmaja* | *Pitta* |
| *Prema* (love) | *Soma* | Water | *Abhraja* | *Kapha* |

Homologic parallels can be drawn between the cosmic forces and the three great elements: air, fire, and water. Ancient Indian mythology describes the elements emerging from the space that existed between heaven and earth. Heaven and earth are described as originally being joined together and then separated by the creator. According to these accounts, a life-force existed within this space, a life-force existed, which became the atmosphere in which air, fire, and water emerged.[[22]](#footnote-22)

In the *Bṛhad-āraṇyaka Upaniṣad*, these three elements arise from one another. In the beginning of time, the Universal Self (*Brahman*), personified as the creator god *Brahma*. decided to produce a world with conscious and unconscious objects. It first created a self, a mind, and began worshipping. From this worship, the cosmic waters were produced. After its first emergence, water became solidified to form the earth. On this earth, the Supreme rested and from the light within him fire was produced.

The Personal Self (*ātman)* is characterized as being composed of all three elements. The earth is the feet of the Self. It is the lowest degree of all forms of physical manifestations, and it is therefore representative of the feet. Water is said to be the belly of the Self because water provides the source of food for the Self. Most importantly, Air is the breath of the Self. It moves in all directions and is the controller of the entire universe.

Fire, water, and earth are said to be the subtle and principal elements of creation described in the *Chāndogya Upaniṣad.* These three elements are mixed in various proportions to create all aspects of physical reality. This is a principle known as the *Trivritkarana*, which asserts that the three primary elements emerge from one another and create the rest of the material universe. For example, all the colors that can be seen in the universe are some manifestation of these three principles: redness is fire, whiteness is water, and blackness is earth. So when a person sees a red object, they are not seeing the color red, but the element of fire. The stories describing the emergence of these three fundamental elements emphasize the interdependency of the three elements.

There are three “selves” described in the *Upaniṣads* that together make up the Personal Self. There is the primary self, or the absolute self, because it exists in everything and does not differ from person to person. The secondary self is distinguishable from the primary self in that it is the self with which individuality is connected. The body is the tertiary self. The nature of the body is determined by actions in previous lives.[[23]](#footnote-23)

The three *gunas*, or qualities, provides another homlogic triplet that aligns with these other sets of three. These three qualities are said to constitute all living things, as mentioned above. *Sattvas* is associated with the color white and represents all that is spiritual, pure, and light. *Rajas* are said to be dynamic, wrathful, forceful, and are symbolized by the color red. *Tamas* are categorized by the color black and represent all that is inert, slothful, dark, and dull.[[24]](#footnote-24)

The *Yoga Sūtras* expand on the concepts of these three. In this Indic scripture, yoga is described as “suppression of the modifications of the mind,” and the mind is divided into three functions: *prakhya,pravrtti* and *sthiti*.[[25]](#footnote-25) The three *gunas* constitute and influence these three functions of the mind producing specific mind states. When the *sattva* *guna* is predominant, the mind is pure and inclined to meditate on the Universal Self. However, when influenced by the other two *gunas*, the mind becomes restless and cannot achieve liberation. A mind driven by *tamas* cannot discern right from wrong, has many worldly desires, and does not understand the nature of reality. *Rajas* is the principle force behind activity or change from one state to another within the mind. Once the mind transitions from the influences of *tamas* to become dominated by *rajas,* it can begin to realize the qualities of the true Self that can only be achieved by a mind influenced by *sattva*.

Parallels can be drawn between the cosmic elements, the principal gods of the *Vedas*, the *gunas*, and the three *doṣas* or humors described in Ayurvedic texts. This form of analogic thinking enriches these categories giving them a deeper and more profound meaning. Homologic thinking arises from for an openness and creativity that allows people to make connections between concepts in order to discover new ways of thinking. This expression of the creative mind causes the evolution of new systems of thought. The mechanisms of homologic thinking are the basis of the development of Ayurvedic medicine from ancient Indic medical ideas.

Classical Ayurvedic Medicine and Ideology

Theoreticians of Ayurvedic medicine connected many of those triads to the three biological humors (*doṣa)* air, fire, and water. The term *doṣa* is used in Sanskrit to describe humors and means “that which darkens, spoils or causes things to decay.”[[26]](#footnote-26) When these humors are not balanced disease emerges within the body. However, the term *doṣa* itself is problematic. Scholars argue whether the term relates directly to the classic humors described by Hippocrates (physical air, choler, and phlegm) or whether it refers to metaphysical or “ghostly entities” that act upon the body. Traditional Ayurvedic texts describe the *doṣas* as being physical substances with specific attributes such as taste, color, texture and locations within the body.[[27]](#footnote-27) Yet, similar language is used to describe the humors in both ancient Greco-medical texts and in Ayurvedic texts when describing the three *doṣas*.

While these three humors are described as being equally important as determinants of health. *Vata* is said to be the principal *doṣa*, and the primary motivator behind the other two humors, and corresponds with the air or wind element.

The importance of air is a concept that originated in the Upani*ṣ*hads. In the third *Brāhmaṇa* of the *Bṛhad-āraṇyaka Upaniṣad* there is an anecdote that describes the superiority of breath among all the bodily functions. After the creation of the universe, there are said to be divine forces and non-divine forces that constitute all of creation. The *devas*, gods, are the representation of the divine forces, and the *asuras*, demons, are all evil forces. These two entities are said to be in constant battle. However, the gods are always fewer in number and invoke the power of *mantra*, chant or prayer, in order to overcome the demons. In one narrative the gods asked each individual organ to chant one by one, but the *asuras* were able to overcome each chant. After all the sense organs and the mind failed to chant the *devas* asked the vital energy of the universe, *Prāṇa*, to chant the mantra. The *asuras* could not overcome the power of the primordial breath. This story explains that the sense organs individually have a particular object or motive to fulfill. For example, the object of the ear is sound. But *Prāṇa* is the unifying force amongst all the senses, and it has the ability to direct the senses, giving it superiority over all the other senses, much like *vata* is the ruling humor over *pitta* and *kapha*. [[28]](#footnote-28)

The seventh *Brahmana* of the *Bṛhad-āraṇyaka Upaniṣad,* further explains the importance of the air element describing it as being the inner controller of the world.[[29]](#footnote-29) This vital energy is the thread by which all aspects of body and the universe are strung together. “All bodies, whatever be their structure, are formed in the mould of this Vital Energy…It cannot be designated by any other name than an ethereal Being, wind, air.”[[30]](#footnote-30) It is this vital force that causes a person to be “whole and complete,” and death is said to be characterized by the absence of breath or air.[[31]](#footnote-31)

It is from these philosophical ideas regarding air that *vata* emerges as the principal *doṣa*. Ayurvedic texts state that this humor governs all aspects of the body’s sensory and motor capabilities. The medium, or second element, through which *vata* manifests is ether, which resides in the subtle, empty channels, and spaces within the body.

There are five main forms in which *vata* can be found in the body. The first is *Prāṇa*, which is considered to be the source of vital energy in all-living being. It is primarily located in the head and is responsible for directing the nervous system. *Prāṇa* rules over the senses, the mind, the heart, and consciousness, and therefore, it directs all other forms of *vata*. *Prāṇa* connects a person to their inner self (*Ātman*), thereby playing an integral role in maintaining spiritual health.

*Udana* is the second form of *vata* and describes the upward movement of air within the body. This form of *vata* is primarily found in the chest and throat and controls a person’s ability to speak and breath. On a more abstract level, *udana* controls the ability of the Self to escape the cycle of life and death. When a person dies, this form of air rises through the body and directs the self through the various other worlds after death based off of a person’s karma and will. Through yoga, one develops *udana*, which gives a person the power to transcend the physical world towards salvation. This connection between yoga and the second form of *vata* is the reason that yoga is seen as one of the many tools that can be used to attain salvation and enlightenment.

The third form of *vata*, known as *vyana*, is situated in the heart and can be translated to mean the “diffusive and pervasive air.”[[32]](#footnote-32) It is primarily responsible for the movement of air through our circulatory system, as well as the movements of the joints and muscles. *Samana*, the fourth form of *vata*, is the equalizing and balancing force that controls the digestive system.

The fifth and final form of *vata* is *apana* and can be translated to mean the downward motion of air in the body. It directs bodily processes such as menstruation, sexual activity, and forms of excretion. Imbalances in *apana* create disorders of *vata*. Aggravation in the downward movement of air causes disintegration of the air in the body, and therefore *apana* is addressed first when treating a *vata* disorder. A disturbance in *vata* within the body typically causes much more severe complications than imbalances of the other two humors, as it controls not only important aspects of the body, but also the mind.

*Pitta* corresponds to the biological humor of fire, and it is responsible for all bodily metabolic processes, such as digestion. In a secondary form, it exists in the body as acidic solutions. *Pitta* gives the body and mind varying levels of light and warmth. Its function is not only limited to the physical digestion of food, but also what David Frawley calls “mental digestion,” a person’s ability to perceive and comprehend their reality.[[33]](#footnote-33)

*Pitta* exists within the body in five main forms. Located in the brain, as well as the heart, *sadhaka pitta*, governs intellect and a person’s discerning capabilities. The development of this *pitta*, along with *udana*, the second form of *vata*, is emphasized in the practice of yoga. The second form of fire is known as *alochaka*, and governs visual perception. Located principally in the eyes, it governs the body’s ability receive light and aids in the sharpness of the other senses. *Bhrajaka pitta* controls skin coloration and the ability of the skin to retain heat. The fourth form of *pitta*, known as *pachaka pitta*, is responsible for the body’s ability to digest food. It is the foundation of all other forms of *pitta*, and it is considered to be the source of heat within the body. When treating *pitta* related diseases, Ayurvedic physicians focus on balancing *pachaka* *pitta*. The fifth form of fire that gives the blood, bile, and stool color is known as *ranjakam*.

*Kapha* is the third biological humor and directly correlates to the biological elements of water as well as the earth. The term *kapha* means “that which holds things together.”[[34]](#footnote-34) It is located in the bodily tissues, and therefore, it gives the body support and substance. This humor provides emotional as well as structural support for the body. *Kapha* relates directly to emotions such as love, compassion, modesty, patience, and forgiveness, and it supports the other two humors and stabilizes the emotional and physical components of the body.

Like, *vata* and *pitta,* there are also five forms of *kapha* within the body. The first form is named *tarpaka kapha*, and it gives the body contentment. Found in the form of cerebro-spinal fluid in the brain, it controls memory as well as emotions that give the body and mind stability, such as happiness. The practice of yoga facilitates the growth of this form of *kapha* in order for a person to attain bliss. The next variation of *kapha*, *bodhaka*, controls perception. It is located in the mouth and tongue and governs the sense of taste, which makes it an integral part of the first stage of digestion. *Bodhaka* is also responsible for lubricating the other senses. *Avalambaka* *kapha*, the third form, is situated in the heart and lungs. Acting as the primary storage unit of all *kapha* within the body, *avalambaka* *kapha*, is the primary form of support for the body. The activity of all other forms of *kapha* depends on *avalambaka*. The fourth form of *kapha* provides the body with moisture and is called *kledaka kapha*. Principally found in the stomach, it forms the mucous lining of the stomach and functions to aid in digestion through the secretion of digestive enzymes. *Sleshaka kapha*, the final form, is responsible for lubricating the joints and muscles of the body and holding the basic structure of the body together.

Ayurvedic medical literature describes illness and disease as resulting directly from of imbalances of the three humors within the body. Disturbances in *vata, pitta,* and *kapha* can be caused due to a variety of reasons, such as changes in sleeping patterns, eating habits, or environmental changes, including changes in seasons. The aggravation of *vata*, wind, can be caused due to the body being stressed, being overworked, and lack of sleep, sexual overindulgence, and the excessive consumption of bitter foods. When levels of *vata* are imbalanced, the skin becomes very rough, muscles tend to spasm, bowel movements are suppressed, and the patient tends to experience an “astringent taste in the mouth.”[[35]](#footnote-35)

Disturbances in *pitta*, fire, can occur due to feelings of anger or irritation or the consumption of hot and salty foods. Symptomatically, varying levels of fire in the body lead to excessive burning sensations in the gastro-intestinal system, difficulties with digestion, restlessness, and a sour taste in the mouth. When there is an excess of Pitta in the body the skin, urine, and stool tend to take on a yellowish appearance.

The function of *kapha*, water, in the body balances the heat produced by Pitta. Aggravated *kapha* leads to excessive moisture within the body, the overall feeling of being cold and lethargic, pale skin, excessive sleeping, excessive consumption of sweets, and a salty taste in the mouth. Aggravations in *kapha* lead to very slow recovery after sickness.

As can be seen above Ayurvedic medicine has implications on dietary practices however, a detailed analysis of these interactions is beyond the scope of this paper. Oftentimes, adjustments in dietary practices are the principal method by which Ayurvedic physicians treat illnesses. Certain food has certain properties that can elevate or dissipate the *doṣas* in order to return the body back to homeostasis a Ayurvedic physician may prescribe a specific diet plan to a patient in order to control a patient’s *doshic* levels.

Table 1.4: The Elements of the Three *Gunas*

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| ***Guna*:** | **Element:** | **Color:** | **Values:** | **Disease Potential** | **Humor:** |
| *Sattva* | Air | White | Spiritual, pure, light | Greatest freedom from disease | *Vata* |
| *Rajas* | Fire | Red | Dynamic, forceful, wrathful | At risk for acute diseases | *Pitta* |
| *Tamas* | Earth | Black | Inert, dull, slothful | At risk for chronic diseases | *Kapha* |

Table 1.5: Analogic Thinking of the Three Humors in Ayurveda

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Humor** | **Element** | **Qualities** | **Sites in Body** | **Taste** | **Bodily Form** | **Activity** |
| *Vata* | Air | Dry, light, cold, rough | Colon, thighs, hips, ears, bones | Bitter | Tall, thin, poor physique | Quick, fast, erratic, hyperactive |
| *Pitta* | Fire | Oily, hot, light, mobile | Small intestine, stomach, sweat glands, blood | Sour | Medium height, good muscles | Motivated, purposeful, goal seeking |
| *Kapha* | Water | Wet, cold, heavy,  dull | Chest, throat, head, fat | Sweet | Stout, stocky, developed physique | Slow, steady, stately |

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It is important to note that as earth and water form the basic structure and substance of the entire body, *kapha* makes up five out of the seven tissue layers described in Ayurveda: plasma, muscle, fat, marrow, and reproductive tissue. *Pitta* is responsible for blood and *vata* for bone. Most diseases associated with a specific *doṣa*, are reflected in the tissue that the *doṣa* controls. However, any humor has the ability to move to any other tissue and create disease.

Table 1.6: Seven Bodily Tissues

|  |  |
| --- | --- |
| **Ayurvedic Name for Tissue Layer** | **English Translation** |
| *Rasa Dhatu* | Plasma or skin |
| *Rakta Dhatu* | Blood |
| *Mamsa Dhatu* | Muscle |
| *Meda Dhatu* | Fat |
| *Majja Dhatu* | Marrow or nerve |
| *Shukra Dhatu* | Reproductive |
| *Asthi Dhatu* | Bone |

In the *Chāndogya Upaniṣad*, the body is described as being composed of subtle channels, known as *nāḍis,* that are responsible for regulating physiological systems and the mind by transporting energy throughout the body. Though there are considered to be thousands of channels composing the body, there are one hundred and one principle channels. These pathways are composed of “juices,” known as *animna,* which controls the movement and balance of humors within the body.[[36]](#footnote-36) This *Upaniṣad*, in particular, emphasizes the role the sun plays in conducting the movement of energy within the nerves. The warmth of the sun and its influence on the body determines the color of the subtle fluids that flow through these energy channels. When bile is elevated in the body, the juices flowing through the *nāḍis* have a yellow appearance. An increase in phlegm, in combination with the bile, leads to the white coloring of the energy channels. The *nāḍis* assume a blue color when the wind element is elevated.[[37]](#footnote-37) The rising and setting of the sun influences the movement of the humors within the body, and hence, the elevation and depression of certain humors throughout the day is common.

Health is dependent on the proper flow of the *doṣas* through these channels. In Ayurveda, the classification of diseases is dependent on both tissue systems, and the interactions between these channels. Three channels act as connections to the outside world bringing in important forms of nourishment, seven channels are tissue specific, and another three are responsible for removing toxins from the body. These waste materials are associated with specific humors: air is sweat, fire is feces, and water is urine.[[38]](#footnote-38) These channels that detoxify the body can be obstructed due to imbalances of the three *doṣas.* The movement of energy within all of these channels is dependent on the actions of the mind, which acts as a specialized system connecting the nervous system to the reproductive system. The female reproductive system has two specialized subsystems of channels that control the menstrual cycle and lactation.

Table 1.6: The Channel System[[39]](#footnote-39)

|  |  |  |
| --- | --- | --- |
| **Channel** | **Function** | **Origin** |
| PRANAVAHA SROTAS | Channels that carry Prana, the breath or life-force, primarily the respiratory system and circulatory system | Originates in the heart and the g.i. tract, primarily the colon |
| ANNAVAHA SROTAS | Channels that carry food, the digestive system | Originates in the stomach and left side of the body |
| AMBHUVAHA SROTAS | Channels that carry water or regulate water metabolism | Originates in the palate and pancreas |
| RASAVAHA SROTAS | Channels that carry plasma (rasa), the lymphatic system | Originates in heart and blood vessels |
| MAMSAVAHA SROTAS | Channels that supply muscles (mamsa), the muscular system | Originates in the ligaments and skin |
| MEDAVAHA SROTAS | Channels that supply fat or adipose tissue (medas), the adipose system | Originates in the kidneys |
| ASTHIVAHA SROTAS | Channels that supply the bones (asthi), the skeletal system | Originates in adipose tissue and the hips |
| MAJJAVAHA SROTAS | Channels that supply the marrow and nerve tissue (majja), mainly the nervous system | Originates in the bones and joints |
| SUKRAVAHA SROTAS | Channels that supply the reproductive tissue (shukra), the reproductive system | Originates in the testes or the uterus |
| SVEDAVAHS SROTAS | Channels that carry sweat (sveda) the sebaceous system | Originates in adipose tissue and the hair follicles |
| PURISHAVAHA SROTAS | Channels that carry feces (purisha), the excretory system | Originates in the colon and rectum |
| MUTRAVAHA SROTAS | Channels that carry urine (mutra), the urinary system | Originates in the bladder and kidneys |
| MANOVAHA SROTAS | Channels that carry thought, the mental system | Originates in the heart |
| Two special systems exist within the female as subsystems of the reproductive system. | | |
| ARTAVAVAHA SROTAS | Channels that carry the menstrual fluid (artava) | |
| STANYAVAHA SROTAS | Channels that carry the breast milk, or the lactation system, treated as the sub-system of the menstrual system | |

The seven bodily tissues make up the majority of the human body, and each tissue system is described as being made up of specific cells that communicate with one another through the channels. The method by which Ayurvedic physicians measure these subtle communications within the body is through the method of pulse diagnosis. The pulse “is the subtle manifestations of universal consciousness pulsating through the channels of the body.”[[40]](#footnote-40) By measuring the pulse, a physician can determine the presence of the three *doṣas* within the body, illnesses related to the three *doṣas*, and the imbalances within the three humors. Ayurvedic practitioners utilize three methods to measure and interpret health and illness through pulse diagnosis. The first method, known as pure observation, relies on the physician’s ability to perceive the patient’s pulse through physical examination, for example, observing a patient’s external jugular vein. The second technique involves the sense of touch. The doctor places the index, middle, and ring fingers on the patient’s pulse points, physically feeling the pulse in locations such as the radial artery. For patients who are obese or have a predominance of *kapha* it is more difficult to conduct a pulse diagnosis utilizing this method due to the extra tissue layers that obscure the *nāḍis*. The radial artery is the primary site on the body through which the pulse is measured since it is most comparatively convenient and easy to measure. In the final method of pulse diagnosis, the Ayurvedic physician questions the patient on subjects related to their health history and health issues.[[41]](#footnote-41)

In Ayurvedic scripture, each humoris described as having specific characteristics of the pulse. It is these subtle differences in the pulse that physicians are measuring when conducting a pulse diagnosis. A pulse characterized by *vata* is referred to as a “cobra pulse, ” and it tends to be thin, feeble, fast, irregular, and cold. The pulse can be felt best through the index finger and requires only a light amount of pressure to be felt.[[42]](#footnote-42) The *pitta* pulse is also called “frog pulse” because it is a very strong. It is hot, forceful, and moves “like a leaping frog” under the middle finger.[[43]](#footnote-43) The *kapha* pulse, or the “swan pulse,” tends to be located deeper within a patient, and it therefore requires more pressure to be felt. It is slow, cool, and watery. The movement of the pulse is compared to a swimming swan, and it can be best felt under the ring finger.

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In Ayurveda, the concept of the three humors is the primary basis of diagnosis. These three substances are present in varying proportions within the body, and they constitute aspects of the physical, mental, and spiritual bodies’ anatomy and physiology. It is the job of the Ayurvedic physician to determine the patient’s “natural constitution” of the three *doṣas,* a concept known as *prakṛiti ,* or inner essence.[[44]](#footnote-44) During a *prakṛiti* reading, a physician determines which humor or humors dominate within a patient’s body. A physician can gain greater understanding of a patient’s health and disease tendencies, through analyzing the humors. Having gained insight into the balance of the *doṣas* within the body the doctor has the ability to construct a patient-oriented treatment plan.

The *Carak* *Samhita* describes two types of *prakṛiti:* mental and physical. There are three forms of *prakṛiti* that describe the three main personality types. *Sattvik*, or godly, personality types tend to be pure-minded, compassionate, and loving, and have the ability to withstand various levels of personal hardship. People with a *rajasik* mindset tend to be egotistical, ambitious, controlling, proud, and logical. Lastly, a *tamasik* individual tends to be lazy, lethargic, selfish, and greedy.[[45]](#footnote-45)

There are seven primary types of bodily *prakṛiti:* *vata, pitta, kapha, vata-pitta, vata-kapha, pitta-kapha* and *vatta-pitta-kapha*. Either a patient is purely associated with one of the three main humors or exhibits a combination of the three. The composition of the three humors determines not only a patient’s disease potential, but their physical appearance, emotional tendencies, and mental state. Each of the seven natures listed above has specific illnesses and health problems associated with it. When multiple humors are involved in an illness interactions between them make the conditions difficult to treat.

A person characterized as being a *vata prakṛiti* tends to be skinny with a light bone structure and protruding Adam’s apple. A *vata* mentality is described as being airy. Emotionally, they tend to be enthusiastic, flippant, erratic, fearful, and anxious. They are quite sensitive and tend to prefer being alone. However, they do excel at making friends with people different from themselves. Persons with this *prakṛiti* tend to contract diseases such as insomnia, rheumatism, and nervous disorders, which are all linked to the fluctuation of *vata.* Other health ailments that are commonly associated with a person of this type of *prakṛiti* are infertility, irregularity in menstruation, blood clotting, stuttering, paralysis, and ringing in ears.

Patients that are *pitta prakṛiti* tend to have a normal body size with well-defined muscles. They enjoy physical activity and have fast metabolisms. A *pitta* mentality is described as fiery and is characterized as being intelligent, logical, and critical, yet quick to get angry or irritated. People governed by *pitta* make very good leaders and are strong willed. They are kind, giving, and generous towards friends and family, but towards enemies, they are cold and ruthless. Most stress related diseases, such as heart disease and high blood pressure, are associated with this *prakṛiti .* Ulcers, gastro-intestinal disorders, and skin diseases are also health conditions that commonly plague *pitta prakṛiti* patients.[[46]](#footnote-46)

Someone whose nature is governed by *kapha* tends to be more sentimental and romantic. They are very considerate and kind towards others, but they can also be shy and reserved. Culture, religion, family, and tradition are very important to a person with a *kapha* mentality, and therefore, they prefer familiar surroundings. These people tend to be overweight and lazy, yet self-confident and secure. Diseases associated with this *prakṛiti* include diseases associated with the respiratory system such as asthma, bronchitis, or even the common cold.[[47]](#footnote-47)

In order to determine a patient’s nature, a doctor will perform a *prakṛiti* reading in which they will ask a patient questions in order to determine a their physical, emotional, and mental state of being. For example, a doctor would start the reading by asking the patient what their definition of health is. Then a doctor would ask questions about a patient’s childhood, state of mind, and eating and sleeping habits.[[48]](#footnote-48) By analyzing the patient’s answers, a doctor can then determine the proportions at which the three humors are present within the patient.

However, the difficulty of diagnosis via a *prakṛiti* reading is that there is no standardization that can be used to determine the proportions of the three *doṣas* within the body. This method of diagnosis is very subjective and depends not only on the patient’s answers to questions, but also a physician’s interpretation of those answers. Thus, the natural constitution of three *doṣas* within a patient are best revealed by looking at the physical attributes of the body. The ways in which the humors represent themselves physically tend to be fixed attributes, and therefore they can be used as the standard by which a patient’s *prakṛiti* is determined.[[49]](#footnote-49)

*Prakṛiti* is determined during the moment of conception when the egg and the sperm join together. At the time of this union the *doṣa* that is predominant in the mother has the most influence when determining the child’s *prakṛiti.* However, the *Carak Samhita* describes other factors that also play critical roles in the determination of one’s *prakṛiti*, such as the time of birth, the diet of the mother, and the nature of the mother’s womb.[[50]](#footnote-50)

The Sanskrit word for “healthy,” *svastha,* can be translated to mean established (*stha)* in the self (*sva).[[51]](#footnote-51)* According to Ayurveda, health is intimately tied to the person’s sense of self and their natural constitution of the *doṣas,*

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The central idea on which all Ayurvedic treatment depends is balance. Treatment in Ayurveda focuses on restoring a body’s balance by manipulating the presence of the three humors within the body. There are four paths through which a doctor can influence to help a patient achieve perfect health: medication, diet, lifestyle, and the rebalancing of the three *doṣas*.

One of the primary modes of treatment utilized by Ayurvedic physicians is known as *Panchakarma*, five therapeutic procedures that are conducted in order restore a body to homeostasis of the three humors. The first treatment, known as *vamana*, involves the oral administration of drugs that induce a patient to vomit an accumulation of a particular humor. *Virechana,* is the second form of *Panchakarma*, involves the expulsion of elevated levels of a humor in the intestines through the induction of diarrhea. The third form of *Panchakarma* is *basti*, and it involves the administration of medicated oils via the rectum in order to remove any build up of a humor in the colon. The fourth treatment, *nasya karma,* involves the cleansing of the head by administering medicated oils into the nostrils. The final form of *Panchakarma* treatment is known as *raktamoksha* and involves the process of bloodletting in order to purify the blood of any aggravated humors.[[52]](#footnote-52)

Each of these forms of treatment is divided into three stages: pre-operative, operative, and post-operative procedures. Pre-operative procedures include dietary and lifestyle restrictions, as well as a massage with medicated oils and fomentation treatment, which utilizes steam to prepare the body to absorb the treatment. Post-operative procedures consist of further dietary and lifestyle changes a patient must comply with in order to obtain the most benefit from the treatment. These three stages differ with respect to all five *Panchakarma* treatments.

How the Principles of Ayurveda relate to Women’s Reproductive Medicine

The oldest Ayurvedic treatise, *Carak Samhita*, contains a narrative that describes the Ayurvedic medical system being taught to the Rishi Bharadwaja by Lord Indra. In the narrative the god Indra, taught the system of medical practice through the three foundational principles: etiology of diseases, clinical features of disease, and treatment.[[53]](#footnote-53)

The *Susruta Samhita,* describes in great detail the eight main branches of Ayurveda

The Obstetrics and Gynecological (OBGYN) branch of Ayurvedic medicine, known as *Prasuti tantra* and *Striroga*,is studied through the consideration of all the classical texts of Ayurvedic medicine, since there is not one designated chapter or book that addresses these topics in a comprehensive manner. Rather, the subject of women’s health and reproductive medicine is scattered throughout the classics, and it is mentioned at various points in relation to other topics.[[54]](#footnote-54) The branch of OBGYN falls under the Pediatrics branch within Ayurveda. For example, many topics related to female health, such as successful pregnancies, menstruation concerns, antenatal care, and fertility, relate to the field of Pediatrics. However, the topic of obstructed labor is discussed under the surgical branch.

Table 1.7: The Eight Branches of Ayurveda

|  |  |
| --- | --- |
| **Sanskrit Name of Branch:** | **Translation:** |
| *Kaya chikitsa* | General Medicine |
| *Kaumara-bhrtya* and *Bala roga* | Pediatrics |
| *Shalya tantra* | Surgery |
| *Bhuta vidya* or *Graha chikitsa* | Branch concerned with treating diseases not based in the three *doṣas*, but are instead related to microbes or spirits (psychiatry) |
| *Agada tantra* or *Damstra chikitsa* | Toxicology |
| *Rasayana tantra* or *Jara chikitsa* | Geriatrics |
| *Salakya tantra* or *Urdvanga roga* | Ear, Eye, Nose, and Teeth |
| *Vajkarana tantra* or *Vrishya chikitsa* | Fertility |

Early Ayurvedic literature reveals an emphasis placed on the proper birth and rearing of a son. In these early texts, women’s reproductive health issues and general concerns are described in terms of producing a healthy and “handsome” son.[[55]](#footnote-55) However, as time has progressed, society’s emphasis on male children has decreased, and there is now an equal importance given to woman’s health, particularly in terms of their ability to reproduce. From these realizations, the field of Ayurveda has become even more specialized with women and children now being treated under two separate branches, though there are still only eight main branches recognized in Ayurvedic literature.[[56]](#footnote-56)

The *Carak Samhita* describes a woman’s physical reproductive anatomy, the processes of menstruation and fertilization, prenatal and antenatal care, labor and delivery, embryology, and gynecological disorders. This medical literature also describes causes and solutions for infertility, methods of impregnation, and rituals that can be performed to obtain specific characteristics in a child. Proper care of a newborn, fetal disorders, and lactation are also discussed in this text. The *Susruta Samhita* gives further detailed descriptions of female anatomy and physiology, and describes surgical methods that should be utilized in times of obstructed labor.[[57]](#footnote-57)

Contemporary Influences of Ayurvedic and Biomedicine in the OBGYN field in India

In December 2014, I received an Undergraduate Research and Creative Achievement Grant to study Ayurvedic medicine in India at the International Center of Ayurvedic Studies.[[58]](#footnote-58) This institute, located in Jamnagar, Gujarat in west India, is a World Health Organization collaborative center, and its mission is to propagate Ayurveda across the globe through research and education. The hospital is a partnership between the Gujarati State Government and the Indian National Government. Due to the financial support the hospital receives, patients are provided with medications, consultations with doctors, and treatments free of charge.

For four weeks, I shadowed the doctors and post-graduate students in the OBGYN department, attending both thesis defenses and attending classes with foreign students who were enrolled in the three-month Ayurveda course. I worked in the clinic from Monday to Saturday every week. In the mornings, I would shadow doctors and post-graduates working in the In-Patient Department (IPD), and in the evenings, I would spend most of my time with patients in the Out-Patient Department (OPD).

From my observations, I began to see a pattern emerge in the way Ayurvedic medicine at the institute was practiced. My experiences in the OPD revealed that while diagnoses of diseases or illness utilized biomedical methods and technology the treatment prescribed in the OPD, and administered in the IPD, was based in traditional Ayurveda.

A normal patient-doctor consultation would followed a routine pattern. A patient would come to the OPD with a complaint such as irregular menstrual cycle, white discharge from the cervix, frequent miscarriages, infertility, or pre-natal check up. Most patients came to the hospital seeking treatment for infertility. The doctor or post-graduate student would then take the patient’s history, particularly focusing on their menstrual cycle and eating and sleeping habits. The rest of the patient’s consultation would consist of the physician utilizing biomedical techniques and technology to measure the patient’s vitals, conduct a physical examination, and obtain any samples, such as a pap-smear, to send for testing. After the doctors initial consultation they would then send the patient to get a sonogram or x-ray completed to further confirm the initial diagnosis. After viewing the results of the biomedical imaging and testing, the doctor would then determine what form of Ayurvedic treatment should be administered. Typically in the OBGYN department treatment for most medical conditions consisted of the administration of various herbal medicines along with diet and lifestyle changes and some form of *Panchakarma,* typically *basti.*

Due to the combined use of biomedical practices and Ayurvedic treatment doctors are required to be familiar with biomedical and Ayurvedic methods of diagnosis and treatment. Every week, an OBGYN from an allopathic hospital nearby would come and give lectures comparing Ayurvedic and biomedical methods of diagnosis and treatment. During the four weeks I was at the Institute, the post-graduate students were given lectures on the treatment of infertility in biomedicine in comparison to Ayurveda.

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The method most commonly used to treat OBGYN disorders is *basti*, which involves the administration of medicated oils or liquid through the rectum or vagina. *Basti* is considered to be the most useful and effective *Panchakarma* procedure. It is very versatile and can be easily administered to a wide range of patients and through all seasons. Also, this treatment procedure is thought to be the best when treating disorders of *vata*. The classification of *basti* treatment options depends on the route of treatment administration and the composition of drugs that are delivered. There are four routes through which *basti* treatment can be administered, through the rectum, vagina, urethra, and sinus. The composition of drugs that are given can be divided into two types. The first type is known as *asthapana basti* or *niruha basti.* In this treatment, a combination of drugs is administered in the form of a decoction to help dispel an aggravated *doṣa* from the body and to help prolong life.[[59]](#footnote-59) This treatment involves the mixing of five basic ingredient, honey, salt, oil, pastes of drugs, and decoction of raw materials.

In the IPD, there were three main types of decoction *basti* administered to patients. *Yapana basti* was given for eighteen days to treat patients with ovulation problems that lead to infertility. *Lekhana basti* was administered for ten days, and it contains drugs with “scraping” properties that aid in the removal of thickened uterine walls, cysts, and fibroids. The third type of decoction *basti* that was utilized in the clinicis *shodhana basti*. This *basti* treatment was given to pregnant women in their last trimester in order to ensure they had an easy and proper delivery.

The second type of *basti* treatment is one that predominantly uses oil and is called *anuvasana basti*. *Basti* treatments that fall under this branch can be given regularly with no risk to the patent’s health. In the clinic, the most common type of oil *basti* treatment that was administered to patients was *matar basti*. This treatment consisted of the administration of 60ml via the rectum for eight days. *Matar basti* was usually given to patients who were suffering from Polycystic ovary disease (PCOD). *Yog* *basti* is a combination of decoction and oil *basti* that is administered for eight days; this treatment promotes conception in women who are ovulating, but still experiencing infertility.

Every morning at 7:00 AM, the IPD department would open and the patients would come in the morning in order to prepare their *basti* treatment for the day. During the four weeks I was shadowing at the clinic, there were around twenty-five patients receiving *basti* treatment for a variety of disorders and illnesses. The attending doctor would keep a log that recorded every patient’s treatment plan, when they were supposed to receive treatment, how their treatment was progressing, and where they were in their treatment plan. Pre-operative procedures for every patient, besides pregnant women, consisted of an oil massage on their stomach and back and fomentation. Post-operative procedures consisted of laying down with a hot water bottle for a few hours after the treatment was administered.

The administration of the *Panchakarma* treatments in the OBGYN department utilized biomedical techniques with Ayurvedic treatment and principles. I observed two particular methods of treatment and diagnosis that illuminated the complex combinations of Ayurveda and Biomedicine.

The first type of case involved treatments for patients who were experiencing infertility due to fallopian tubal blockage. A doctor would do an initial consultation with the patient and direct them to have an Hysterosalpingogram (HSG) conducted. This procedure involves the use of biomedical tools to inject radioactive dye into the cervix in order to visualize a woman’s uterus and fallopian tubes. If a tubal blockage was present then the patient would be asked to undergo a treatment known as *uttar basti*. This treatment involves the insertion of medicated oils directly into the cervix that assists with removing the tubal blockage. The pre-operative procedure for this treatment consisted of massage, fomentation, and a vaginal cleaning known as *yoniprakshalam.* The post-operative procedure for this treatment required the patient to maintain a light diet while laying down with a hot water bag for a few hours. I had the opportunity to assist with a pre-natal exam of a patient who was unable to conceive for four years due to her right fallopian tube being blocked. However, after two treatment cycles of *uttar basti*, her fallopian tube was opened and she was able to conceive.

Another example of the joint use of biomedical and Ayurvedic practices was seen in the prenatal care pregnant women received. Monthly appointments in the OPD for pregnant women followed common biomedical practices. Doctors would take the blood pressure and weight of the mother and measure the heart rate and fundal height of the fetus. Then the doctor would direct the patient to undergo a sonogram to measure the baby’s weight and to look for any fetal abnormalities. If a baby was determined to be underweight based on these reports the mother would undergo a treatment known as *sheer basti*. In this treatment *sheer*, or warm milk, is mixed with honey and various other medicines, and it is administered to the mother through her rectum to help increase the baby’s weight. While I was observing the *basti* treatments in the IPD, I saw one patient who was 25 weeks pregnant and whose baby weighed 1.1kg (2.4 pounds). After two weeks of her *sheer basti* treatment her baby’s weight had increased to 2.2 kg (4.8 pounds).

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At the end of my four weeks at the institute I interview each of the Ayurvedic doctors I had shadowed and worked with at the Institute. Through these conversations I wanted to gain their perspective of how biomedicine and Ayurveda were being combined to provide healthcare at the clinic. From my discussions with these doctors, I realized that the number of patients that they have to see every day does not allow them to practice Ayurveda in its most traditional form. Since this institute provides free medical services doctors in the OPD, each provider usually sees more than one hundred plus patients per day. If they attempted to do a *prakṛiti* reading, which can sometimes take one to two hours per patient, they would never be able to give medical assistance to all of their patients.

The necessity for swift diagnosis and treatment is particularly acute for the OBGYN department women because women often times find it difficult to visit a doctor multiple times a week due to family obligations. By utilizing biomedical technology, Ayurvedic physicians are able to quickly confirm diagnoses and begin treatments.

The doctors and post-graduate students said that they believed that biomedicine is the best form of treatment for acute problems or cases of emergency. Since traditional Ayurvedic treatments require time and careful planning and each treatment is tailored for a specific patient, they cannot be utilized effectively in a case of emergency. However, the doctors and students felt that Ayurveda is the best form of treatment for chronic conditions, such as infertility, because chronic illnesses require more patient-tailored treatment plans. They felt that their department has been a key model within the entire Ayurvedic Institute for how biomedicine and Ayurveda can be combined and utilized together in mutually beneficial ways, despite differences in the underlying principles and practical methods.

Conclusion

Ayurveda is a dynamic tradition with ever changing facets, a flexibility that has has allowed it to endure as a medical tradition in India for over 2,500 years. The traditional medical values that are central to Ayurvedic medical practice stem from millennia of development in Indic medical thinking. Concepts regarding health and medicine have had a presence in Hindu literature since the compilation of the earliest primary texts of Hinduism, the *Vedas*. The early medical ideas described in these texts focus on the utilization of rituals to promote health and healing. This conceptualization of medicine continued to develop and grow through later scriptures, such as the *Upaniṣads* and the *Yoga Sūtras*. These scriptures provide deeper meaning into the conception of the three *gunas,* or qualities, the connection between the mind and the body, and the cycle of life and death. The foundational principles of Ayurvedic medicine emerge from this medical context. Ayurveda eventually transformed into a comprehensive holistic medical system that considers all aspects of the human experience as having a profound effect on health. This medical system recognizes that there are multiple dynamic forces acting upon the body and directing health.

Homologic thinking regarding the three qualities*—*which are the natural constituents of all reality, Vedic gods, and the three humors—enables Ayurveda to emerge as a coherent and interconnected medical system that addresses all aspects of wellbeing. This form of integration allows for the development of new systems of thought, and the homologic basis of Ayurveda allows it to be dynamic and malleable through the centuries. The many layers of the tradition—cultural, medical, psychological, social, and spiritual—are interwoven together, in a synthetic pattern of meaning. This innovative thinking permitted Ayurveda to endure as a medical tradition despite cultural and historical adaptations. Now, it’s flexibility allows Ayurveda to interact and combine with western biomedicine in interesting ways. Worldwide, biomedicine is increasingly becoming the predominant way people view illness and health. Through the process of globalization, there are increasing intercultural exchanges occurring between biomedicine and indigenous medical systems, such as Ayurveda. These interactions increasingly result in mutual exchanges between biomedical and culturally embedded medical practices.

My observations in the OBGYN Department at the International Institute of Ayurvedic Studies is just one example of how these two medical traditions are being utilized in mutually beneficial ways. The use of biomedical technology for diagnosis purposes and the safe administration of treatments allow doctors to treat many patients at once in an effective manner. However, the use of Ayurvedic treatment ensures that doctors are giving their patients holistic patient-oriented care.

Many scholars try to emphasize that Ayurveda is confirmed by biomedicine to fortify its relevance. This paper demonstrates that there are many ways they do not correspond, yet they can still be used in very fascinating and useful ways despite these inconsistences. It is possible to have dissimilar narratives about a similar circumstance, and they can both be right in their own terms. Because biomedicine and Ayurveda have very different points of view on the concepts of disease, health, and healing, there are many ways in which the medical traditions are being combined.

A future area of research would be to see how Ayurveda is emerging within the realm of biomedicine in areas outside of India, such as the United States. This research could focus on seeing how traditional Ayurvedic medical systems are being practiced in the United States with patients whose presumptions regarding health are largely based in biomedicine. Another related area of inquiry would concern the ways in which Americans who are trained in traditional Ayurveda choose to practice this medical system in the United States. These future areas of research would further identify the various ways biomedicine and Ayurveda are converging due to the globalization of medicine.

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1. Kenneth Zysk, *Medicine in the Veda: Religious Healing in the Veda* (Delhi: Motilal Banarsidass, 2009), 1-3. [↑](#footnote-ref-1)
2. Gwen Robbins Schug, “Infection, Disease, and Biosocial Processes at the End of the Indus Civilization,” *PLoS One* 8 (2012): 1. [↑](#footnote-ref-2)
3. In recent decades, there has been dispute amongst scholars regarding the dating of Hindu scriptures. “The first European scholars of India believed that Hindus believed that everything was timeless, eternal and unchanging and so they didn’t generally value or even notice the ways in which Hindus did in fact recognize change” (Doniger, 18). It is essential to recognize that central Hindu concepts such as karma have not always existed in Hindu literature. Rather, such concepts emerge throughout Indian history for specific reasons. These new ideas develop historically and serve as commentary on concepts presented in older scriptures. The variability of Hindu thought helps to explain the dynamic nature of Ayurvedic medicine. [↑](#footnote-ref-3)
4. Ralph T.H. Griffith, preface to *The Hymns of the Atharvaveda* (London: Benares, E.J. Lazarus & Co., 1895), iii. [↑](#footnote-ref-4)
5. BV Subbarayappa, “The Roots of Ancient Medicine: An Historical Outline,” *J Biosci.* 26 (2001): 138. [↑](#footnote-ref-5)
6. Patrick Olivelle, *The Early Upanishads* (London: Oxford University Press, 2014), 12-13. [↑](#footnote-ref-6)
7. Swami Krishnananda, *The Chāndogya Upaniṣad* (Rishikesh: The Divine Life Society, 1984), 7. [↑](#footnote-ref-7)
8. S. Radhakrishnan, *The Principal Upaniṣads* (New Jersey: Humanities Press, 1992), 306. [↑](#footnote-ref-8)
9. Krishnananda, *The Chāndogya Upaniṣad*, 11. [↑](#footnote-ref-9)
10. Robert Ernest Hume, *Brihadaranyaka Upanishad* (London: Oxford University Press, 1921), 168. [↑](#footnote-ref-10)
11. Hume, *Brihadaranyaka Upanishad, 168.* [↑](#footnote-ref-11)
12. Krishnananda, *The Chāndogya Upaniṣad*, 26. [↑](#footnote-ref-12)
13. D. Wujastyk, introduction to *The Roots of Ayurveda: Selections from Sanskrit Medical Writings* (London: Penguin Books, 2003), xvi. [↑](#footnote-ref-13)
14. The first two Ayurvedic texts are named after their respective authors Carak and Susruta. *Ashtanga Hridayam* translates directly to mean “heart of eight limbs” or “the heart of medicine.” The eight limbs refers to the eight branches of Ayurveda. *Ashtanga Sangraha* is a concise discussion of Ayurvedic medical principles. [↑](#footnote-ref-14)
15. Lakshmi-Chandra Mishra et. al, “Ayurveda: A Historical Perspective and Principles of the Traditional Healthcare System in India,” *Alternative Therapies in Health and Medicine* 7 (2001): 36. [↑](#footnote-ref-15)
16. Swami Hariharannda Aranya, *Yoga Philosophy of Patanjali* (New York: State University of New York Press, 1983), 426. [↑](#footnote-ref-16)
17. Aranya, *Yoga Philosophy of Patanjali,* 428. [↑](#footnote-ref-17)
18. Maya Warrier, “Modern Ayurveda in Transnational Context,” *Religion Compass* 5 (2011): 80. [↑](#footnote-ref-18)
19. Ibid. [↑](#footnote-ref-19)
20. Balaji Narayana Hebbar, “Deciphering Patterns of Triadism in the Hindu Epics” (PhD diss., University of South Africa, 2012): 7. [↑](#footnote-ref-20)
21. David Frawley, *Ayurvedic Healing: A Comprehensive Guide* (Delhi: Motilal Banarsidass, 2000), 8. [↑](#footnote-ref-21)
22. Ibid., 9. [↑](#footnote-ref-22)
23. Swami Krishnananda, *The Bṛhad-āraṇyaka Upanishad* (Rishikesh: The Divine Life Society, 1983), 66. [↑](#footnote-ref-23)
24. Hebbar, “Deciphering Patterns of Triadism in the Hindu Epics,” 7. [↑](#footnote-ref-24)
25. Aranya, *Yoga Philosophy of Patanjali,* 6. [↑](#footnote-ref-25)
26. Frawley, *Ayurvedic Healing: A Comprehensive Guide*, 9. [↑](#footnote-ref-26)
27. Wujastyk, *The Roots of Ayurveda: Selections from Sanskrit Medical Writings,* xlii. [↑](#footnote-ref-27)
28. Krishnananda, *The Bṛhad-āraṇyaka Upanishad*, 79. [↑](#footnote-ref-28)
29. Radhakrishnan, *The Principal Upaniṣads,* 224. [↑](#footnote-ref-29)
30. Krishnananda, *The Bṛhad-āraṇyaka Upanishad*, 282. [↑](#footnote-ref-30)
31. Ibid. [↑](#footnote-ref-31)
32. Frawley, *Ayurvedic Healing: A Comprehensive Guide*, 14. [↑](#footnote-ref-32)
33. Ibid., 10. [↑](#footnote-ref-33)
34. Ibid. [↑](#footnote-ref-34)
35. Mishra, “Ayurveda: A Historical Perspective and Principles of the Traditional Healthcare System in India,” 40. [↑](#footnote-ref-35)
36. Krishnananda, *The Chāndogya Upaniṣad*, 292. [↑](#footnote-ref-36)
37. Ibid., 293. [↑](#footnote-ref-37)
38. Frawley, *Ayurvedic Healing: A Comprehensive Guide*, 17. [↑](#footnote-ref-38)
39. Ibid., 18-19. [↑](#footnote-ref-39)
40. Vasant Lad, *Secrets of the Pulse: The Ancient Art of Ayurvedic Pulse Diagnosis* (New Delhi: Motilal Banarsidass, 2005), 5. [↑](#footnote-ref-40)
41. Ibid.,10 [↑](#footnote-ref-41)
42. Ibid., 11 [↑](#footnote-ref-42)
43. Ibid. [↑](#footnote-ref-43)
44. Lad, *Secrets of the Pulse,* 2. [↑](#footnote-ref-44)
45. Mishra, “Ayurveda: A Historical Perspective and Principles of the Traditional Healthcare System in India,” 42. [↑](#footnote-ref-45)
46. Ibid. [↑](#footnote-ref-46)
47. Ibid. [↑](#footnote-ref-47)
48. These are just some examples of questions that can be asked. *Prakṛiti* readings are a very subjective form of diagnosis, and every Ayurvedic doctor has different methods of conducting these readings. The above mentioned questions and procedures are a result of observations I made while observing doctors at the International Institute of Ayurvedic Studies. [↑](#footnote-ref-48)
49. Frawley, *Ayurvedic Healing: A Comprehensive Guide*, 36. [↑](#footnote-ref-49)
50. Hetal Amin et al., “Sharirika Prakriti – An Astute of Human Constitution,” *Global Journal of Research On Medicinal Plants & Indigenous Medicine* 2 (2013): 606. [↑](#footnote-ref-50)
51. Robert E. Svoboda, *Prakruti: Your Ayurvedic Constitution* (New Delhi: Motilal Banarsidass, 1993), 5. [↑](#footnote-ref-51)
52. G. Shrinivasa Acharya, *Panchakarma Illustrated* (New Delhi: Chaukhamba Sanskrit Pratishthan, 2006)*,* 10. [↑](#footnote-ref-52)
53. Premvati Tewari, *Ayurvediya Prasuti Tantra Evam Striroga* (Varanasi: Chaukhambha Orientalia, 1999), 24. [↑](#footnote-ref-53)
54. Tewari, *Ayurvediya Prasuti Tantra Evam Striroga,* 25. [↑](#footnote-ref-54)
55. Ibid. [↑](#footnote-ref-55)
56. Ibid., 27. [↑](#footnote-ref-56)
57. Ibid. [↑](#footnote-ref-57)
58. The Undergraduate Research and Creative Achievement Grant was awarded to me by the Undergraduate Research Office at East Carolina University. [↑](#footnote-ref-58)
59. Acharya, *Panchakarma Illustrated*. 364. [↑](#footnote-ref-59)