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## Changing translations of Ayurveda: Understanding cancer through the words Arbuda and Granthi

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### Abstract

With respect to the intersection of traditional medicine and modern medicine, translations serve a dual purpose. On one hand a translation of a traditional medical book must reflect the unique and original characteristics of the book. However, simultaneously many translators believe it is important to contextualize such translations to modern biomedical parallels in order to create a pragmatic text. Specifically studying cancer, the paper aims to understand how Ayurvedic translation incorporated the words “tumor” or “cancer” into their English translations of the *Caraka Samhita* and *Suśruta*, two of the major classical canons of Ayurvedic literature. In the analysis of the translations of cancer, the paper incorporates the theories of translation and the effects that certain translations have on the study of Ayurveda. The paper will critique scientific publications on cancer and Ayurveda and explore other cultural aspects of Ayurveda that are lost in these texts.

**Keywords:** Translation, traditional medicine, Ayurveda, cancer

### Translation of Ayurveda: Introduction

An ideal translation evokes the same response as the original text; such equality is often difficult to retain. This is especially true for translations of ancient texts. With respect to historical texts in ancient or foreign languages a large debate regarding translation ensues, much of which is detailed in popular compendium *Translation: Theory and Practice, Tension and Interdependence*. Should a translator of an ancient text attempt to translate words with their literal meanings or rather attempt to modernize the text in a way the reader can understand? Some translation theorists believe in a pragmatic and functional style of translation. Ivan Kashkin, for example, believed in a creative approach towards translation, emphasizing that a translation must honor the “vital perception of the modern reader”<sup>[1]</sup>. Such translators believe that in order for the translation to be meaningful to the present-day reader, words must be brought into a modern context. On the other side of the debate are translators who emphasize translation must remain “faithful” to historical texts, by writing in a style that is appropriate to the time period the ancient text was originally written. This group believes that by trying to “make the past modern” the translator might “neglect the distance of time”<sup>[2]</sup>. Thus, translators like Roger Roothaer believe that both the translator and the modern reader must make every attempt to place the text in the “cultural background of that past period”<sup>[3]</sup>. Such a debate of translation reflects the difficulty in translating, especially translating relics of the past for a modern society.

With respect to the intersection of traditional medicine and modern medicine, translations serve a dual purpose. On one hand a translation of a traditional medical book must reflect the unique and original characteristics of the book. However, simultaneously many translators emphasize the importance of contextualizing such translations to modern biomedical parallels in order to create a pragmatic text. Analyzing such translations provides a broad perspective of understanding the concept of medicine as a whole.

This paper attempts to analyze a specific disease through the perspective of Ayurvedic texts. Studying cancer, the paper aims to understand how Ayurvedic translation incorporated the words “tumor” or “cancer” into their English translations of the *Caraka Samhita* (or “Compendium of Caraka” – an early text on Indian traditional medicine) and *Suśruta Samhita* (a Sanskrit text on medicine and surgery), two of the major classical canons of

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Ayurvedic literature. In the analysis of the translations of cancer, the paper will incorporate the theories of translation and the effects that certain translations have on the study of Ayurveda. After first providing a general history of cancer, the paper will analyze scientific publications on cancer and Ayurveda. The paper will critique these publications and explore other cultural aspects of Ayurveda that are lost in these texts.

### History of Cancer

Cancer is certainly not a new disease; the word cancer itself originated around 460 B.C., when the physician Hippocrates used the word *karkinos* (meaning giant crab), to describe outwardly visible carcinoma tumors. Hippocrates described the solid tumor to be the crabs body, while the veins stretched by the tumor to be the crabs feet. However, the origins of this disease are even more ancient. Some of the earliest manuscripts describing the surgical removal of breast cancer come from Egyptian society in 1500 BC [4].

In Ayurveda, it is said that Atreya and Dhanwantari employed medicines and surgeries to treat the early stages of cancer. Tumors were described in these texts as lumps. Later, the *Astanga Hrdaya* and *Astanga sangraha* identified other techniques in internal medicine to reduce cancer symptoms. In the later compilations of the *Caraka Samhita* and *Suśruta Samhita* knowledge regarding tumors from other texts were incorporated [5].

Overall, in ancient history the cause of cancers may have been theorized by many, but largely, remained unknown. In 1761, Giovanni Morgagni of Padua laid the foundations for the scientific study of cancer by performing autopsies of tumors to gain a better understanding of the pathology of the disease [6]. Further, in the 19th century, the pioneering microscopic work of Rudolph Virchow began to establish cellular etiology of cancer. As scientists and physicians more precisely correlated microscopic cellular characteristics of autopsies with clinical outcomes, more precise diagnoses could be made. However, despite tremendous advances in modern biomedicine over the last two centuries, the causes of cancer remain enigmatic.

On the other hand, the treatment of cancer has undergone tremendous improvement, as combinations of surgery with chemotherapy, radiation, hormonal and immunotherapy significantly improve patients' lives. However, the severity of such treatments has led to a strong emphasis on identifying alternative techniques of cancer prevention and cure [7]. Traditional medicines like Ayurveda play strong roles in providing integrative approaches. Various books focus on Ayurveda as a method of healing from the bodily disharmony caused by radiation therapy [8, 9]. Other books cite Ayurvedic breathing and yoga as methods for cancer prevention [10, 11]. Additionally, some scientists have attempts to use Ayurvedic textbook as a means for identifying herbs for treatments of cancer [12, 13].

### Scientific Publications of Ayurveda and Cancer

There has recently been a strong effort to create an integrative oncological treatment approach [14]. In order to make Ayurvedic principles accessible to physicians throughout the world, these principles have often been translated into biomedical terminology and diseases. In fact, there exist various books that break down the different diseases (e.g., cancer, diabetes, AIDS) that are thought to be described in texts like the *Caraka Samhita* [15].

Throughout the numerous literature reviews, the two predominant terms translated to mean "tumor" are *granthi* and *arbuda* [16-22]. In scientific texts, *Granthi* is defined either as a benign tumor and *arbuda* is defined as a malignant tumor. This direct biomedical definitions of the words *arbuda* and *granthi* leads to quite a different interpretation of these words than was in the original *Caraka Samhita* or *Suśruta Samhita*. For example, in the *Nidana Sthana* of the *Suśruta Samhita*, the verse containing the word *arbuda* defines *arbuda* as "rounded, stiff, wide and deep" [23]. Even though the translation does not make any direct reference to a tumor, scientific publications using translation as a key technique state, "it is quite clear that ancient acharyas had knowledge about cancer" [24].

The comparisons with biomedicine do not end with the translation of *arbuda* and *granthi*. The entire pathology of cancer progression is, without any evidence, attached to various Ayurvedic words [25]. While "New Age" texts focus on cancer as an imbalance created by modernity, scientific publication take an alternative route by describing that "according to *Sushruta*, the fundamental cause of major neoplasm is the pathogens that affect all parts of the body" [26]. While the concept of a pathogen is not present, in both *Caraka Samhita* and *Sushruta Samhita*, *vishas* are shown to have great potential in bypassing the *doshas* to cause imbalances that lead to disease [27]. Interestingly, in scientific articles, *visha* is not translated as a poison, but as either a carcinogenic or toxin [28]. While the concept of *visha* is broadly any entity that causes poison, including hatred, spirits, or the environment, a toxin narrows down the poison to only an external, environmental factor.

In a similar context with respect to Chinese Traditional Medicine, Vivienne Lo and Sylvia Schroer discuss the changing medical interpretation of the Chinese word *xie* [29]. While *xie* was traditionally conceived in extremely broad terms of morality, medically related to drinking, sex, anger, and anxiety. However, *xie* in modern contexts has been translated as diseases caused by toxin from environmental agents. Thus, treatments against *xie* are detoxifying treatments, rather than moral changes to lifestyle. The practitioners chose this interpretation to ensure that the patient does not feel guilty about *xie*. The authors describe the concept of *xie* as a change due to an increased fascination with environmental agents. The concept of *visha*, changing from a broad poison caused by both external and moral reasons to a word that equates to toxin in modern texts, demonstrates a change in the perspective on disease as viewed with "objectivity" through biomedical lens.

Returning to the biomedicalized development of *arbuda* and *granthi* in scientific Ayurvedic texts, when describing the pathogenesis of tumors, authors of a scientific publication demonstrate a six-step process. Balachandran and Govindarajan describe this pathogenesis as [30]:

1. *Sancharya*: early stages of localized neoplastic changes
2. *Prakopa*: transformation of primary growths into metastatic progenitors
3. *Prasara*: metastasis
4. *Sthana samsraya*: complete metastasis and secondary growth
5. *Vyakti*: clinical signs and symptoms are expressed
6. *Bheda*: the stage where differentiation of growth occurs on the basis of histopathology

Such an exact correlation between the biomedical tumorigenesis and metastasis progress with Ayurvedic terminology is written in various texts, yet there is no evidence that such equivalents are correct. The following list provides literal Ayurvedic translations of the same words<sup>[31]</sup>:

1. *Sancharya*: brought about by, cause
2. *Prakopa*: vitiation, excess
3. *Prasara*: extending, spreading out
4. *Sthana samsraya*: resting everywhere, spreading to entire body
5. *Vyakti*: visible appearance
6. *Bheda*: differentiation of disease into various manifestations

This broad structure of pathogenesis described in *Suśruta Samhita* does not demonstrate any specific etiology specifically for tumorigenesis. Thus, by defining these terminologies as specific to cancer is extremely misleading and not proven by the classical texts.

Such a biomedicalization of Ayurvedic texts is not specific to cancer. In an Ayurvedic textbook entitled “Reference to Bacteriology” *bhuta* is defined as a “particular group of minute beings, which do harm to men” and are then defined as microorganisms<sup>[32]</sup>. When directly translating *bhut* as a microorganism, key aspects of the original meaning of the word as spirit or ghost are lost.

Common theme in translations of *ojas* and *arbuda* & *granthi*: When describing a similar trajectory seen with the word *ojas*, Meulenbeld states:<sup>[33]</sup>

“New inventions and interpretations of Ayurvedic technical terms thought up or concocted by Ayurvedists after they had become more conversant with advances in the life sciences nicely reflect the course of development in these disciplines. Some articles of Indian authors provide us with a motley list of such mostly unfounded renderings. Regrettably, the sources of these inventions are rarely disclosed.”

With *ojas*, Meulenbeld demonstrates that the word in Ayurvedic texts was not specifically defined and simply meant a fluid substance, in all humans, a vital energy for life. Thus, he believes that no immediate relationship with *ojas* can be formed. However, in modern scientific publications, *ojas* has been translated to mean albumine, glycogen, vitamin, pituitrin, semen, phlegm, blood, and the list goes on. Such equalizations demonstrate the use of the word *ojas* as a platform for creating unwarranted linkages between Ayurveda and biomedicine.

The broad notion of the word *ojas* being translated into extremely specific biomedical terms parallels the translations of *arbuda* and *granthi* into a specific biomedical disease — tumor. In Dominik Wujastyk’s book *The Roots of Ayurveda*, the author attempts to define the terms in the *Caraka Samhita* and *Surshuta Samhita* with their literal definitions in the context of the specific verses<sup>[34]</sup>. Using the example of diarrhea and the Ayurvedic term *atisaara*, Wujastyk demonstrates that directly translating an Ayurvedic word into a biomedical term locks a word that originally possessed flux into rigidity. Thus, when he defines the word *granthi* and *arbuda* he chooses not to translate the words simply as a “tumor.” He translates *granthi* as a boil, knot, lump, or spot depending on the context of the verse, and he translates the word *arbuda* as a growth or lump. Such words are vague and demonstrate more the physical characteristics of the injury, as described in the texts, rather than the biomedical delineation. While it is common knowledge that a lump, boil, or knot is not necessarily a tumor, still in many texts the words *arbuda* and *granthi* are considered synonymous of cancer.

### Analysis of *Caraka Samhita* and *Sustra Samhita* Translations of *Arbuda* and *Granthi*

Various authors have demonstrated a stark shift in the language used in older and newer translations of Ayurvedic texts. Langford, for example, compares an early compilation and translation of Ayurvedic textual knowledge, the *Sivantha Sagar*, written by Sivanath Singh in 1912, with newer Ayurvedic texts<sup>[35]</sup>. Two aspects of the *Sivantha Sagar* that Langford highlights as especially different from more recent textual translations are that the *Sivantha Sagar* was written in poetic verses and various supernatural forces, like demons and ghosts, were detailed throughout the text. However later translations, such as Muralidhar and Mahesamanda Sharma’s Ayurvedic translations, focus heavily on portraying Ayurveda in a scientific manner and in a structure similar to a textbook. Similarly, translations of the *Caraka Samhita* have changed over time depending on prevalence of different diseases. The older translations of the *Caraka Samhita* contained far greater commentary on infectious diseases like smallpox, cholera, and plague, and devote much less space to non-infectious disorders. However, current translations focus heavily on non-infectious diseases like cancer and cardiovascular disease, or on newer infections like HIV. Valliathan describes that the importance given towards a disease increases when an “authoritative text” cites the disease<sup>[36]</sup>. This analysis demonstrates that the focus of translations of a text can vary and be tied to the time of translation. This parallels Oleksy Kundzich’s theory of translation, which states, “translations are temporary revivals based on the perspectives of the time<sup>[37]</sup>. Such an interpretation of translations of texts demonstrates that translations can serve as catalysts of change, rather than be static entities.

Using the concept of a paradigm shift, this section of the paper will analyze the English translation of *arbuda* and *granthi* in available copies of the *Caraka Samhita* and *Sustra Samhita* available at the library. In Kaviraj Kunjalal Bhishagratna’s 1907 translation of the *Suśruta Samhita*, he translates *arbuda* as a tumor and *granthi* as an aneurism<sup>[38]</sup>. When describing how *arbuda* and *granthi* originate, Bhishagratna translates *Suśruta*’s words to, “Affecting only the fat, these humours [vayu, pitta, and kapha meaning air, bile, and phlegm respectively] tend to originate Granthi (Aneurism), Apachi (scrofula), Arbuda (tumour), Galaganda (goitre) and Alaji (inflammation of the eye at the edge of the cornea)”<sup>[39]</sup>.

When Bhishagratna translates *arbuda* as a tumor, the word *arbuda* becomes directly connected with the biomedical processes of tumorigenesis. However, *Suśruta* writes that *arbuda* affects “only the fat”, which according to the pathology of tumorigenesis is incorrect as any cell can become malignant. It is clear that attempting to biomedicalize Ayurvedic texts through translation may lead to deep inconsistencies.

However, it must also be noted that this older 1907 translation retains much of the essential Ayurvedic properties that later scientific publications clearly remove. For example, while in scientific publication the pathology of *granthi* is cited as a toxin or pathological agent, *granthi* in Bhishagratna’s translation is defined as “enlarged glands due to any of the deranged Vayu, Pitta, or Kapha”<sup>[40]</sup>. Here, the word *granthi* has not been specified as a benign tumor, and the causation is simply an imbalance of the doshas, a concept that does not have biomedical connotations. Thus, while Bhishagratna’s translation does biomedicalize the word *arbuda*, the

pathologies surrounding the words have retained a form that better characterizes Ayurveda than newer publications.

In Ram Karan Sharma's 1976 translation of the Agnivesa's *Caraka Samhita*, treatment method for *arbuda* and *granthi* is translated: "In all other conditions, purgation therapy is indicated. It is specially indicated for the patients suffering from ... *arbuda* (tumour), *gala-ganda* (thyroid enlargement), *granthi* (lymphadenitis)" [41]. Again, parentheses are employed to indicate that *arbuda* is a tumor. *Granthi* is translated as lymphadenitis in this work, which is the inflammation of the lymph nodes. The exact same line translated in Shree Gulkabkunverba Ayurvedic Society's 1949 translation of the *Caraka Samhita* reads: "In all others purgation is indicated; and especially in those suffering from ... malignant tumors, deradenoncus, tumors acute [42]. Interestingly, the same word *granthi*, in the same line of *Caraka Samhita*, has been translated into two completely different biomedical diseases. In Sharma's translation *granthi* has become a lymph node inflammation, while in Gulkabkunvera's translation *granthi* is translated as an "acute tumor." The phrase the "acute tumor" is often used in the "acute tumor lysis syndrome" to describe the acute inflammatory affects during cancer treatment, especially for lymphoma and leukemia. The distinctions between the translations of the words *granthi* demonstrate that the process of biomedicalizing Sanskrit words was not completely standardized, and as Mullenbred notes, may have been quite random.

Interestingly, Gulkabkunverba Ayurvedic Society's translation of *Caraka Samhita* includes Gujarati and Hindi translations of the written verses. *Granthi* is translated to Gujarati simply as *Gaanth*, meaning knot. *Gaanth* is employed in everyday Gujarati to refer to an entanglement in one's hair, a knot in a shoe, or a knot in the muscles of one's back. The Hindi translation of *granthi* means gland, node, tie, or nodule. Thus, while the vernacular Indian language translations of *granthi* have remained closer to the literal Sanskrit meaning of the word, the English translations have purposefully been biomedicalized. From a lengthy list of definitions, translators have intentionally transfigured the meaning of the word to denote biomedical phenomena. The varying translations of the word *granthi* into aneurism, glandular enlargement, lymphadenitis, and acute tumor reveal how translating Ayurvedic words into biomedical terms often locks the originally flexible words down, maybe even incorrectly.

### Ayurvedic Translations and Practitioners

Just like there exist different methods to translate Ayurvedic texts, either into biomedical terms or into specific literal meanings, Ayurvedic practitioners also follow varied principles in their practices. Some *vaid*s (Ayurvedic healers) believe that Ayurveda and biomedicine are two completely different bodies of knowledge. These *vaid*s do not attempt to seek compatibility between these two disciplines of medicines. Svoboda illustrates the beliefs of Vaidya Nalan when he was treating a cancer patient [43]. The *vaid* ignored all previous blood reports and other allopathic diagnosis in order to understand the disease through only Ayurvedic eyes. The doctor said that there was no correlation between the allopathic diagnosis and the term "cancer" as defined in Ayurveda, and believed that each patient must be treated in an individualized manner. His patient, Vaidya Nalan believed, was suffering from his body giving up the "ego" and "permitting a new center of self-awareness to arise with

himself." Thus, Vaid Nalan's treatment focused on strengthening his patient's ego.

Such a treatment is completely different from that of an Ayurvedic doctor who incorporates biomedicine. Dr. Karnik, for example, a practitioner who studied in an Ayurvedic university believes that social science has attempted to create large demarcations between allopathic and Ayurveda that do not actually exist. He states that biomedical science is the key to all medicine. When attempting to treat cancer, he looks for the biomedical diagnostic indicators, correlates them with the Ayurvedic terminology and then treats accordingly [44]. In such practices, terms like *arbuda* and *granthi* would be directly translated as tumor.

### Cultural and Spiritual Connotations of *Arbuda* and *Granthi*

Ayurveda is perceived as part of an entire culture of Indian tradition. In this case, Ayurvedic translations reflect a broader horizon of Indian thought and culture.

Alter questions the idea of medicine as an insular characteristic, and he believes that medicine does not provide the best framework to understand medicine [45]. Studying medicine as an utilitarian, value-free, and an universal concept directly opposes aspects involving magic and spirituality. Asian medicines should be viewed not as medical or solely healing systems, but rather through a cultural and philosophical perspective. While the politics of culture, manifested through nationalism and transnationalism, had made it very difficult to discuss Asian medicine as non-medicine and medical knowledge as anything other than scientific, Alter believes that studying medicine in a broader perspective allows one to question this hegemonic category of medicine itself.

Returning to the word *ojas*, for example, Meulenbeld describes that there is difference in translations when using the word from a holistic Vedic perspective versus specifically an Ayurvedic perspective [46]. While in Vedic text *ojas* is considered a divine force that is bestowed on humans, in Ayurveda the word describes an innate constituent of all humans. The mythical, cultural aspects of *ojas* are not described in the Ayurveda alone. Mullenbeld addresses these differences in *ojas* by stating that while Ayurvedic texts focused specifically on the medical aspects, these medical ideas were understood in context of the holistic nature of the Vedic ideas [47].

In this way, rather than understanding the terms *arbuda* and *granthi* as merely medical terms, one may understand their cultural significance as well. Ganga Ram Garg's "Encyclopedia of the Hindu World" references *arbuda* to a serpent-like demon that was killed by Indra (a Hindu deity) in the *Rig Veda* [48]. For example, chapter two of the *Rig Veda* states "piece the high resting-place of great Arbuda, Indra" [49]. Interestingly, the home of this serpent was a cave that also had the name of *arbuda* - "Indra with the greatness of the great flood broke off the summit of Arbuda. He slew the serpent and released the seven rivers" (X.67.12) [50]. In this manner, from being the name of an evil serpent, *arbuda* became closely associated with the word mountain [51]. In fact, the *Mahabharata* details that *Arbuda* is the son of the Himalayas [52]. *Susruta* stated that after the Himalayas, the Arbuda Mountains are most famous for their *soma*, a vedic ritual drink [53]. *Arbuda* went on to become the name for the highest mountain in Rajasthan, which we now known as Mount Abu. It has become an important pilgrimage location

as according to the *Puranas* the mountain is sacred to goddess Lalita [54, 55]. In some texts, *arbuda* also means 100 million [56]. There seems to be a disconnect between these older cultural translations of *arbuda* and the modern biomedicalized translation of the word, being tumor. Albeit the literary meaning of *arbuda* soon came to be “lump” or “mass,” which came from the concept of the mountain, evidence to infer that *arbuda* means tumor is simply not available. *Sushruta Samhita* was not a medical textbook and its cultural significance cannot be ignored. Ayurvedic texts have been lately been interpreted solely from the medical perspective, and their holistic Vedic significance has been overlooked. Jumping to the conclusion that *arbuda* is a tumor, as in done in the “Encyclopedia of Indian Medicine,” is premature [57]. *Sushruta* could have named *arbuda* after a wart, or he even could have meant it to be a demonic spirit (like the serpent that was slayed by Indra) that causes illness. Perhaps those attempting to demonstrate a complete scientific basis in Ayurveda are reinterpreting certain words.

The word *granthi* has over time faced a similar fate to that of the word *arbuda*, with its meaning being repeatedly modified by translators to better convey a biomedical meaning. *Granthi* was originally described in *yoga*, specifically in the context of *kundalini*, which is considered a form of corporeal energy or *shakti*. *Granthi* literally means “knot,” and it is said in *kundalini yoga* that there are three *granthis* or psychic hurdles that “we must cross in order to raise energy.” These are Brahma *granthi* located at the navel, Vishnu *granthi* at the heart, and Rudra *granthi* at the forehead [58]. From this concept of knot arrived the modern biomedicalized definition of the word *granthi* as a small tumor. The Encyclopedia of Indian Medicine gives the “Western Nosology” of *granthi* as “inflammatory swellings of glands, or sebaceous cysts [59]. Again such a narrow definition is premature and removes all cultural aspects of the word.

### Conclusion

As explained in the novel *Medicine Between Science and Religion: Explorations on Tibetan Grounds*, translation of medicinal works by Tibetan scholars to communicate to Western interlocutors “is characterized by missing discussions or problems or contradictions, and a ‘scientization’ (or standardization) of Tibetan medicine [60]. Ayurveda has faced a very similar problem. As information gets disseminated to the Western world by means of translation, the situation results “where even though both Tibetan medicine and Ayurveda share a common physiological and aetiological base, they favor different diseases that might be identical with cancer [61]. Consequently, words such as *arbuda* and *granthi* that have had a long history of cultural basis in older Vedic texts have been translated as “tumor” and “aneurism.” Translators seem to think that broadly translating these words and employing the true meanings of these words as lump and knot would not suffice in providing Ayurveda a similar stature and importance in global health as modern biomedicine. Attempts to integrate Ayurveda into today’s oncological treatment methods have often led to misleading translations of ancient Ayurvedic texts. It may be helpful retreat to the literary translations of Ayurvedic texts, perhaps with footnotes to explain correlations with modern biomedicine rather than translating Ayurvedic words directly into modern biomedical contexts.

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