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A review of the text 'Khagendra Mani Darpanam' - Indian Toxicology

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Abstract:

Ancient Indian toxicology classifies poisons into various categories based on their origin, properties, and effects on the body. Poisons are classified into groups such as vegetable poisons (from plants), mineral poisons (from minerals), and animal poisons (from animals). The ancient Indian texts discuss principles of toxicology such as the concept of virulence (potency) of poisons, modes of entry into the body, and the classification of toxic effects. They also elaborate on the importance of understanding the individual constitution (prakriti) of a person in assessing their susceptibility to poisoning. One of the significant contributions of ancient Indian toxicology is the documentation of antidotes and treatment methods for poisoning. Antidotes include herbal formulations, mineral preparations, and specific dietary interventions aimed at neutralizing the effects of poisons and restoring health.

The principles and practices of ancient Indian toxicology have influenced modern toxicology and pharmacology. Many medicinal plants and formulations described in ancient texts are being researched for their therapeutic potential and pharmacological properties. Ancient Indian toxicology represents a rich repository of knowledge accumulated over centuries through observation, experimentation, and experience. In that background a book named 'Khagendra Mani Darpana' written by a king named 'Mangarasa' in the 13th century has become untouched. The author has performed

various experiments to find out various medicines against many toxicities of the body. He has mentioned all his experiments in 'Halagannada' literary style. The language he has used has 80% of the Sanskrit influence; thereby the literature that he has written is completely coded. Studying this ancient book provides insights into traditional approaches to poison management and offers potential avenues for further research and exploration in the field of toxicology and herbal medicine.

Key words: Toxicology, Classifications of Poison, Khagendra Mani Darpanam, Sthavara Visha, Garuda Mantra and Lepana

The Preface:

In the later Vedic period, many thoughts got various experiments and been written as different disciplines. Ayurveda is one of the ancient systems of medicine in India. Similarly, animals also have exclusive texts like 'Pashu Chikitsa,' 'Vrisha Kalpadruma,' 'Gajashastra,' and 'Ashvashastra,' among others. In medieval India, many kings tried to incorporate some ideas from those ancient sources and have written and documented their experiments in the book named 'Khagendra Mani Darpana¹' written by Mangarasa, a Kannada King, in 14th century AD. The book mainly focuses on how animals find natural remedies for themselves, much like how cats and dogs sometimes eat grass to induce vomiting.

Ancient Indian toxicology refers to the study of poisonous substances and their effects as documented in ancient Indian texts such as Ayurveda, Siddha, and Unani. These traditional medical systems have a rich heritage of knowledge regarding toxic substances, their sources, properties, and antidotes. The study of ancient Indian toxicology provides valuable insights into historical perspectives on poisoning, medicinal plants, and traditional antidotes. Ancient Indian toxicology has its roots in ancient texts such as Charaka Samhita, Sushruta Samhita, and Ashtanga Hridaya, which date back to several centuries BCE. These texts contain detailed descriptions of poisonous substances derived from minerals, plants, and animals, as well as methods of poisoning and antidotes.

Background:

¹https://ia601507.us.archive.org/14/items/110854728KhagendraManiDarpanaOfMangarajaAVenkatRao/110854728-Khagendra-Mani-Darpana-of-Mangaraja-A-Venkat-Rao.pdf

The Khagendra Mani Darpanam is a distinguished text in Hale Kannada (Old Kannada), written during the medieval period, which is known for its substantial incorporation of Sanskrit terms. While many medicinal plants mentioned in this text can be found in classical Ayurvedic texts, it is also aligned with several life sciences treatises written in Kannada. One such text is Lokopakara, authored by Chavundaraya, another significant work on life sciences from this linguistic tradition.

Kannada literature, renowned for its poetic, grammatical, and rhetorical richness, also offers valuable contributions to fields such as medicine, art, sculpture, and equine sciences. Alongside celebrated Sanskrit medical texts like Charaka Samhita, Sushruta Samhita, Madhava Nidana, and Ashtanga Hridaya, Kannada literature includes diagnostic manuals and treatment protocols grounded in the same medical traditions. Among these works, Khagendra Mani Darpanam stands as a preeminent text on toxicology, authored by King Mangaraja I.

King Mangaraja I and the Origin of the Text

Khagendra Mani Darpanam was written by Mangaraja I, who was active during the reign of Harihara I (1336-1357 CE). The text is believed to have been composed around 1350 CE. The reverence for Jain deities like Parshvanatha and Mangaraja's reference to the 6th-century Jain scholar Pujyapada, author of the Sanskrit medical treatise *Kalyanakara*, confirm Mangaraja's affiliation with Jainism.

Mangaraja hailed from a noble lineage in the Hoysalas' Devagiri region, specifically from a place called Chikkamuguli, known for its flourishing literary culture. Mangaraja was a devout Jain and a scholar of the Agama scriptures, praised for his wisdom, generosity, and patronage of scholars. His personal life, as detailed in the text, reflects his deep connection to his family, including his wife, whose beauty and grace are poetically described, and his two brothers, Jagdane and Medhavi.

Mangaraja's Philosophy and the Purpose of the Text

Mangaraja's motivation for writing Khagendra Mani Darpanam is based on a profound humanitarian philosophy. He argued that while many could compose poems and stories that depict the beauty of life, these works are of little use without the fundamental element of good health. For Mangaraja, those who offer remedies for illnesses, particularly those caused by poisons, are akin to deities. This compassionate view of healing drives the meticulous nature of his work, which provides detailed instructions for diagnosing and treating poison-related conditions. His text is written in verse, making it easier for physicians to recall essential treatment details.

Manuscripts and Revisions

The commentary of Sri B S Sannayya has been used for the literature review, published by Kannada Sahitya Parishattu, Pampa Mahakavi Road, Chamaraj Pet, Bengaluru -560018, the book was published in 2004.

Over the years, multiple manuscripts of Khagendra Mani Darpanam have been discovered, but they exhibit significant textual variations. Notable scholars such as M. Venkataraya and Pandit H. Sheshayyangar undertook the task of editing these manuscripts. Their critical edition was first published by the Kannada Department of Madras University in 1942, garnering widespread acclaim.

"With the scarcity of available copies becoming apparent, the task of revising the text felt necessary, and was taken to incorporate additional manuscripts and address lingering issues from the first edition. Despite the significance of the work, there was little interest from other physicians in reviewing or editing the material. Motivated by a deep respect for Mangaraja's legacy and his humanitarian vision, efforts were dedicated in preserving and refining the text, ensuring that its valuable insights would not be lost to time. Much valuable assistance has been received from Dr. Lakshminarasimha Shastri, an expert in Indian medical systems, and Sampath Krishna Jois, a court scholar renowned for his expertise in astrology and for revising Sridharacharya's Jataka Tilaka²". Many valuable Ayurvedic texts remain in manuscript form, neglected and forgotten. To ensure these texts reach interested physicians, the prose text Sakala Vaidya Samhita Sararnava(Volume II) by Kalale Nanjaraja and the poetic work Vaidyakanda by Bommaiah has also been revised. These works were published in 1984 and 1993, respectively. Now, Khagendra Mani Darpanam, the jewel authored by Mangaraja I, is also being reintroduced to the public.

Manuscript Review

1. Manuscript A: This was a palm-leaf manuscript from the collection of Bommarsa Pandit in Mysore. Based on handwriting analysis, it is estimated to be around two

² Sri B S Sannayya (Preface)

hundred years old. This incomplete manuscript contains a commentary up to the fifteenth chapter, with numerous textual deviations and insertions.

2. Manuscript B: A palm-leaf manuscript housed in the Jaina Library, this version is approximately three hundred years old. It contains additional pages on general medical topics and a portion of Kalyanakara by Jagaddala Somanatha. Pure textual readings are found in some places.

3. Manuscript C: In the possession of Mara Govind Pai, this manuscript is largely complete, though several parts are missing. The gaps are likely due to negligence or errors by the scribe. Some additional verses are found in certain places, which are noted in the annotations.

4. Manuscript D: This version, sent by Bhishagratnam H. Narasimha Shastri from Bangalore, contains thirteen chapters with a commentary. However, the commentary is incomplete and questionable, likely written by a modern scholar unfamiliar with Old Kannada word forms.

5. Manuscript E: This manuscript, sent by Shri Lokesha Shastri from Moodbidri, contains only the first three chapters. It offers some pure readings, but the incomplete nature of the manuscript limits its utility.

6. Manuscript F: This is a paper manuscript with catalog number KA 17, stored in the Agamadarshana Manuscript Collection at Shravanabelagola. It is an incomplete manuscript starting from the sixth verse of the third chapter, with annotations related to medicinal plants.

7. Manuscript G: A palm-leaf manuscript with catalog number K.278, stored in the Agamadarshana Manuscript Collection at Shravanabelagola.

8. Manuscript H: This is the version adopted by H. Sheshayyangar for his revision of the text.

The Content of Khagendra Mani Darpanam

The Khagendra Mani Darpanam holds a significant place in Ayurvedic literature, particularly in the field of toxicology. It meticulously categorizes poisons derived from plants, animals, and artificial substances, and provides comprehensive methods for neutralizing their effects. Treatments include various methods such as medicinal ingestion, eye salves, nasal applications, and external ointments. Furthermore, the text also delves into the use of mantras and tantric practices for neutralizing poisons,

emphasizing that remedies for toxic substances can transcend purely medical approaches.

Despite its importance, the text has not received the attention it deserves, even among experts in Indian medical systems. This lack of recognition may be attributed to the emphasis on Sanskrit texts in modern Ayurvedic education and the difficulty posed by the text's *champu* form (a blend of prose and verse), which requires proficiency in Kannada. In the current book, the chapters have been named as 'Adhikara' and there are 16 adhikaras (chapters) in this text, they contain almost eight hundred verses including the prose.

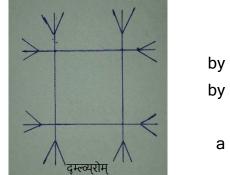
The very first adhikara named, 'Samjna Prakaranam' has eighty eight verse and proses. Majorly this chapter deals with the names. In the beginning, a prayer is offered to Parshwanatha Tirthankara, further a few verses illustrate about illusion, liberation and some of moral aspects. The importance of the sages and the siddas who have invented various natural anti-dots have been recalled and offered the gratitude by the author. As mentioned earlier, the author, influenced by Jainism, frequently uses Jain terminology to express his emotions of devotion (bhakti). The 69th verse marks the beginning of the main content, detailing the names of ten types of poisons. They are categorised into two, namely; Sthavara and Jangama. Based on the various living beings, the amount of poison is identified, for example, snakes have the highest amount of poison that has been injected to the human body, the antidotes are to be given, in that background the doctor (Visha Vaidya) collects various herbs (roots, seeds, skins, leaves, fruits and plants) in the time of Sharat season and process them properly.

The second chapter talks about Sthavara poison, the dangerous poisons of the same include Sala, sala, Vatsanabha, balaha, pushkarasha, haridra, shringilula, meshashringi, halahala, kastuka, taktashringi, indravajra, karkataka, arka etc. The symptoms experienced by such a person may include diarrhea, loss of consciousness, thirst, hallucinations, delusions, chest pain, sweating, and vomiting of blood, among others. The antidotes for the explained symptoms is a mixture of ghee, honey and Luffa Acutangula. In the second chapter, nearly 216 verses, including mantras, are dedicated to explaining herbal antidotes for poisons from snakes, scorpions, and plants. The third chapter named Sangrahadhikara has one hundred and four verses.

The third chapter named Sangrahadhikara has one hundred and four verses. The chapter opens with a verse of prayer to one amongst the twenty-four tirthankaras named Parshvanatha³. The name of the chapter is Sangraha which means; the process of examining the body of poison injected whether it's living or dead. Some special mantras are incorporated in this chapter specifically for the treatment of snake bites. In addition to Sangraha, eight metrics are explained in the text. These include Anganyasa, the process of protecting the bitten body; Raksha, which involves cleaning the bitten area; Stobha, the method of treatment; and Stambha, a technique aimed at preventing the poison from spreading throughout the body. *Nirvisha* refers to the process of removing the poison from the body. Finally, *Chodya* involves covering the body with specific leaves after the poison is cleared, allowing the patient to rest for a few hours before being awakened. In the subsequent verses, various types of snakes are described, along with the volume of their venom and the effects of the poison⁴. Later verses detail the lifespan of a person after being bitten, depending on the type of snake involved⁵. In the final part of the chapter, the symptoms of impending death are described. These include the patient's inability to move their head, a stretched neck, blocked nostrils, gasping for breath through the mouth, and wide-open eyes despite the inability to see. Eventually, the body cools, marking the moment when death is declared⁶.

The fourth chapter, Garudamantradhikara, consists of 79 verses and focuses primarily on Beeja Mantras. Various deities are invoked in this chapter, each associated with specific Beeja Mantras. The Yoga Sutra of Patanjali also explains the importance of the mantra and aushadhi in the Kaivalya Pada: "janmaushadhi-mantra-tapah-samadhijah

siddhayah." In the process of acquiring the siddhis (celestial powers), Patanjali states that these can be achieved by birth, by using medicinal herbs (aushadhi), practicing mantras correctly, through austerity (tapas), and attaining samadhi (deep meditation). In the same way the current script also explained the Aushadhi and Mantra in



³ Khagendra Mani Darpana 3.1

⁴ Khagendra Mani Darpanam 3.15.....25

⁵ Khagendra Mani Darpanam 3.33,34,35,36

⁶ Khagendra Mani Darpanam 3.95, 96, 97.

synchronised way. The Vadavanala Bhairava Mantra⁷, the Meghamala Mantra⁸, the Mnagalakhya Vidya and Bhramari Mantra, Pakshiraja Mantra and Nirvishikarana Mantra⁹ are the important Mantras from the selected texts. The entire chapter primarily focuses on mantras and the procedures for practicing them. Along with a yantra, these mantras are to be practiced, performed, and used when necessary. The yantra is shown here. The fifth chapter deals with the effects of poison on the seven dhatus (tissues) of the human body and provides a detailed treatment protocol, which is outlined in 129 verses. The second verse instructs that the bitten area should be washed and tied with a smooth thread. The poison should be removed, and once the clotted blood has been expelled completely, the wound should be washed again and a plaster applied. The prescribed herbal medicine consists of a mixture of Pterocarpus santalinus, Calotropis gigantea root, Achyranthes aspera, and Callicarpa macrophylla. The paste made from these ingredients should be applied around the wound, and a portion should be taken internally. This treatment helps expel the venom from the body. Based on the dhatusrakta (blood), tvak (skin), mamsa (flesh), asthi (bone), medas (fat), majja (bone marrow), and shukra (seminal fluid)-the herbal medicine is recommended accordingly¹⁰. In this chapter alone, around one hundred to two hundred medicinal plants are used to create the antidotes. The minor poisonous effects can be cured by practicing Anjana (a smooth paste that is created to apply for the eyes) and Nasya 44 (A soothing powder used as an antidote is administered through the nose.), The procedures and various herbal medicines suggested for Anjana and Nasya are detailed in the sixth and seventh chapters, respectively, with 44 verses in the Anjana chapter and 96 verses in the Nasya chapter. The eighth chapter, which focuses on Lepana (topical applications), is equivalent to topical medications in modern medicine and contains 64 verses. This chapter also recommends various plant-based antidotes. The ninth chapter, titled "Anjana-Pana-Nasya-Lepana Prakaranam," consists of 24 verses. While it begins by explaining each method separately, it also notes that some of the mixtures described in the previous chapters are effective in all four methods.

⁷ Khagendra Mani Darpanam 4.73

⁸ Khagendra Mani Darpanam 4.72

⁹ Khagendra Mani Darpanam 4.55....70

¹⁰ Khagendra Mani Darpanam 5.17

From the next chapter onward, the author prescribes antidotes for every type of snake and other venomous creatures in the world. The tenth chapter contains 78 verses and describes over 15 types of snakes along with their characteristics. Some of the names mentioned include Sauvarnaka, Kardama, Agnimalika, Vajramari, Vakramari, Godhasya (cow-faced mouth), Shakatasya (bullock-cart-shaped mouth), Marjarasya (cat-faced mouth), and Shankhasya (conch-shaped mouth). Each of these may have subvarieties¹¹. In the latter part of the chapter, herbal medicines are provided for each type of snake. ¹².

The eleventh chapter, titled *Vrishchika Prakaranam* (The Chapter of the Scorpion), contains 53 verses. It explains both internal and external herbal medicines for treating scorpion stings. There are ten types in the scorpion family; Aruna, Hema, Pita, Mani dhavala, Haridra, Krishna, Kulinda, SHirarekharaji, Romashabala and Taluka. All of these creatures are venomous, but the volume of poison varies depending on the number of metasomas (segments) on their tails. If the metasomas are in even numbers, the treatment is generally easier, as the poison volume is less. If the metasomas are in odd numbers, treatment must be more meticulous, as the venom can be potentially lethal. Occasionally, a scorpion might have only one metasoma, and its venom is highly toxic and can be fatal. Symptoms of a scorpion bite include unconsciousness, difficulty with excretion, erections, mental disturbances, and excessive salivation. While these symptoms might not always be present today, modern medicine provides antidotes for scorpion venom.

The twelfth chapter, titled *Mushaka Visha* (The Chapter on Mouse Venom), contains 53 verses. It begins with a prayer to Jineshwara. The author lists eighteen types of mice, although modern experts have identified forty varieties. All types can affect humans if they bite. The eighteen types mentioned include Shwetha (white), Krishna (black), Alaktaka, Kapila, Nilabha (blue), Dhumrabha, Pitha (yellow), Pingala, Luthi Damshtra, Mahakapila, Krodasya, Dirghasya, Sambuta, Kavala, Dirghakarna, Kalakantha, Renukanga, and Pucchavihina, named based on their appearance and color. Symptoms of a mouse bite include itching, thirst, fever, headache, vomiting, delirium, salivation, fatigue, cold, and potentially death. Plant-based antidotes mixed

¹¹ Khagendra Mani Darpanam 10.2....37

¹² Khagendra Mani Darpanam 10.39....78

with buttermilk are recommended, and occasionally goat milk, cow milk, or breast milk may also be used. According to the author, all types of mouse venom can be treated with these medicines, but if the wound is neglected, the poison will spread and may lead to death.

The thirteenth chapter, the largest with 155 verses, is titled *Srava Jangama Vishama Visha Chikitsa Vidhana* (Antidotes for All Types of Movable Creatures). It addresses venom from various animals, including wolves, elephants, tigers, boars, foxes, and others. Aquatic animals like turtles and alligators, birds like crows and pigeons, insects such as houseflies and mosquitoes, and tiny creatures like ants can all inject venom. Although these bites may not be fatal, they can still cause significant suffering. Not only animals, but also human nails and teeth can be poisonous. ¹³, human nail scratches can create the pus in the bitten area and eventually they might grow bigger, therefore, the modern medicines generally provide antibiotics for all, irrespective of gender or age. Pumpkin juice combined with green chili serves as an antibiotic for dog bites. The chapter details treatments for nearly thirty types of animal-specific poisons, including those from cats, dogs, monkeys, horses, camels, deer, cows, goats, rabbits, chameleons, and fish¹⁴. The final section of the chapter provides general antidotes for all types of poison.

Chapter fourteen, titled Kritrima Visha Chikitsa, discusses the treatment of artificial or human-made poisons. In the previous chapters, general venom and its causes have been explained. This chapter focuses on poison that can be introduced through food, drink, fruits, or external chemical applications¹⁵. Historical references also mention the use of Visha Kanya (poison maidens). In all these cases, proper treatment holds great importance. The poisons discussed here are varied, often created using herbs and mantras. As a result of such poisons, patients may experience fever, pimples, increased body heat, breathing difficulties, and more¹⁶. The effects of the poison manifest slowly, sometimes leading to death after a year. This chapter contains 80 verses and explains various mantras alongside medicines. A prominent mantra mentioned is Amra Kushmandini. A mixture of the juice of Tinospora cordifolia, Citrus medica Linn, and

¹³ Khagendra Mani Darpanam 13.3, 4, 5

¹⁴ Khagendra Mani Darpanam 13. 34.....139

¹⁵ Khagendra Mani Darpanam 14. 4,5

¹⁶ Khagendra Mani Darpanam 14. 8,9

Zingiber officinale, along with Saindhava Lavana (rock salt)¹⁷, is prepared and administered internally to counteract the poison. After meals, some people have a habit of chewing Tambulam, a mixture of Nagavalli (Piper betle L) and Puga Phala (Areca catechu), with lime powder. This mixture helps neutralize certain types of poisons that may have entered the body. The chapter concludes by listing additional plant-based medicines for treating poisons¹⁸.

The fifteenth chapter, consisting of 59 verses, is titled Basta Chikitsa. It deals with the treatment of health disorders caused by imbalances in Vata, Pitta, and Kapha. The author describes various plant-based medications but does not provide any special references beyond treatments for common ailments like colds and coughs.

The final chapter, the largest with 178 verses, is titled Samasta Nirvisha Chikitsa. This chapter discusses the treatment of all types of poisons through medicines and mantras. Important mantras like Naga Preshana, Sarpa Mukha Stambhana, Kundalikarana, and Shabda Nirvisha are elaborated upon. A simple herbal treatment described involves applying butter to the front side of an Arali leaf, heating the leaf, and placing it on the area where poison has been injected. This method is said to draw the poison out through the blood. The chapter, in essence, is a blend of mantra, aushadha (medicine), and yantra (tools or mechanisms).

In conclusion, while traditional texts like Khagendra Mani Darpana extensively mention herbal remedies for intoxication, their efficacy has not yet been scientifically validated. Research is needed to explore the chemical structures within these herbs and to identify the compounds formed when various plants are combined. Additionally, the potential link between mantras and detoxification must be investigated, including an analysis of the specific language and the power of beeja mantras. Despite these scientific uncertainties, Khagendra Mani Darpana offers valuable insights into ancient toxicology, making it a promising area for future research.

Modern Toxicology: A Brief Overview

Modern toxicology is the scientific study of the harmful effects of chemicals, biological agents, and physical agents on living organisms. It blends principles from biology,

¹⁷ Khagendra Mani Darpanam 14. 39

¹⁸ Khagendra Mani Darpanam 14. 75

chemistry, medicine, pharmacology, and environmental science to understand, assess, and manage the risks associated, upon exposure to toxic substances.

Dose-Response Relationship:

Toxicology is built on the principle that "the dose makes the poison." This concept means that the toxicity of a substance depends on its concentration or dosage. Even essential substances like water or oxygen can be toxic if consumed in excess, while highly toxic chemicals might be harmless at very low doses.

Mechanisms of Toxicity:

Toxins can damage cells by interfering with key biological processes. Common mechanisms include:

- Oxidative Stress: Some toxins generate reactive oxygen species (ROS) that damage DNA, proteins, and lipids.
- Enzyme Inhibition: Certain chemicals inhibit crucial enzymes, disrupting metabolic processes.
- DNA Damage: Toxins like radiation or chemical mutagens can induce mutations, potentially leading to cancer.

Types of Toxic Agents:

- Chemical Toxicants: Industrial chemicals, pesticides, heavy metals (e.g., lead, mercury), and drugs.
- Biological Toxins: Toxins from bacteria, plants, and animals (e.g., botulinum toxin, snake venom).
- Physical Agents: Radiation and other forms of non-chemical exposure that can cause cellular damage.

Toxicokinetics:

This refers to the absorption, distribution, metabolism, and excretion (ADME) of toxic substances in the body:

- Absorption: Entry into the body (e.g., through ingestion, inhalation, or skin contact).
- Distribution: Movement of toxins through the bloodstream to various organs.
- Metabolism: The liver and other organs convert toxins into more or less harmful substances.
- Excretion: Elimination of toxins through urine, faeces, or exhalation.

<u>Risk Assessment:</u>

Toxicologists assess the risk posed by chemicals through studies on animals, cell cultures, or computational models. They evaluate factors such as the exposure level, frequency, and duration to determine the potential harm to humans and the environment. *Toxicity Testing:*

- In vivo testing: Animal studies to observe toxic effects in living organisms.
- In vitro testing: Cell-based tests to examine toxicity mechanisms.
- In silico models: Computational simulations predicting toxicity based on chemical structures.

Applications in Medicine and Industry:

- Drug Development: Toxicology helps assess the safety of new pharmaceuticals.
- Environmental Toxicology: Examines the impact of pollutants on ecosystems and human health.
- Forensic Toxicology: Involves identifying substances involved in poisonings, overdoses, or criminal cases.

Emerging Trends:

- Nanotoxicology: Investigates the effects of nanoparticles used in medicine and industry, which can behave differently from larger particles.
- Green Toxicology: Focuses on designing safer chemicals and reducing environmental impacts by studying how substances interact with living systems.

Modern toxicology is a comprehensive and evolving field that seeks to understand the effects of various agents on health and the environment while providing strategies for preventing or mitigating toxic exposures.

Conclusion

In conclusion, Khagendra Mani Darpanam is an extraordinary work that stands at the crossroads of Kannada literature and Indian medicine. Its detailed study of poisons and their antidotes offers valuable insights into the field of toxicology. Despite its obscurity, the texts humanitarian message and scientific rigor make it a treasure for both scholars of Kannada literature and practitioners of traditional Indian medicine.

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