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Decoding the *Dhanurveda Samhita*: A Hermeneutic Study of Martial Methodologies and Weapon Technology in Classical India

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ABSTRACT

The *Dhanurveda Samhita* is one of the most comprehensive martial knowledge systems in classical India, and is considered an Upaveda of the Yajurveda. Traditionally attributed to sage Bharata, it is cited in the Mahabharata and Arthashastra, and is a blend of weapon technology, combat methodology, tactical organization, and philosophical principles of warfare. Though of historical importance, the *Dhanurveda* has not received much study in modern scholarship. The hermeneutic methodologies are used in this study to decode the *Dhanurveda Samhita*, and place it in its historical, cultural, and epistemological context. The study is based on primary textual sources, archaeological evidence, and comparative analysis with the military knowledge system of Eurasia, and shows that the *Dhanurveda* is not just a martial manual but a multi-dimensional knowledge system. The results reveal that it is rooted in empirical knowledge from material science, as well as in battlefield experience, and is oriented towards defensive and tactical knowledge, which is also integrated into cosmological and ethical knowledge. The implications highlight the relevance of the *Dhanurveda* as a model of systems thinking, interdisciplinary teaching, resilience training, and ethical leadership. This paper validates the significance of the text in the intellectual heritage of India and its relevance to current education and leadership development.



Keywords: *Dhanurveda Samhita*, Indigenous Knowledge Systems, Hermeneutics, Weapon Technology, Military Pedagogy, Archery, Systems Thinking, Indian Epistemology, Resilience, Ethical Leadership



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INTRODUCTION

Dhanurveda Samhita is one of the four subsidiary Vedas (Upavedas) subordinate to the Yajurveda and a vast collection of knowledge regarding the science of warfare, weapons, combat technique, and military strategic organization in classical Indian civilization. This historic and seemingly sophisticated text, however, has received little attention to date in the current academic discussion on its technical features, empirical foundations, and influence on subsequent military traditions. It was traditionally believed that the *Dhanurveda* was composed by sage Bharata, and it is explicitly mentioned in the Mahabharata, one of the longest literary works in the world, suggesting its antiquity and high cultural value in the Indian subcontinent and perhaps in South Asia and even wider Eurasia (Fitzgerald, 2004; Van Buitenen, 1973; Buck, 2019). Unfortunately, this text has been neglected in modern research, as it is an important document for understanding military systems and the development of military technology in antiquity.

Classical Position of the *Dhanurveda* in Indian Knowledge Systems

The *Dhanurveda* is considered to be one of the Vedic knowledge systems, an Upaveda of the Yajurveda. The literal translation of its name is “knowledge of the bow,” but it actually covers a much wider range of subjects, including weapon technology, fortification design, troop organization, tactical strategies, and the philosophical principles of warfare (Gommans, 2002; Halbfass, 1992). The Paniniya Shiksha is a confirmation of its place in

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the formal education system of classical India, and its mention in the Atharva Veda and Mahabharata underscores its importance in Indian intellectual traditions ([Bloomfield, 1899](#)).

The *Dhanurveda* can be philosophically understood as a techne. According to the Aristotelian understanding, techne is a systematic knowledge of practical action, which is the synthesis of theory and practice ([Gadamer, 2004](#)). The *Dhanurveda* is an example of this, combining battlefield experience with theoretical frameworks based on Indian epistemology. It is conceptual and applied, meaning it has an explanation of why it works and how it should be done.

From Philology to Substantive Content: Shifts in Scholarship

The early modern research on the *Dhanurveda* was mostly philological, concerned with the transmission of the text and the analysis of its language. It was placed between the 4th century BCE and the 2nd century CE, during the Mauryan and Satavahana dynasties, a time of military innovations. Comparisons were even made with Greek military treatises, and parallels were drawn, both within and across cultures.

Over the last few years, there has been a greater emphasis on the content of scholarship. A study on the botanical and mineral sources of weapons, correlating Sanskrit words with the archaeological discoveries of plants and minerals in the Indian subcontinent. Eggeling (2005) explored cosmological perspectives that inform martial classifications and how martial knowledge was incorporated into Indian worldviews. [Doniger and Smith \(1991\)](#) edited and commented on fragments of extant manuscripts, thus offering critically reliable sources for later research. As a whole, these works reveal that the *Dhanurveda* is not only a martial text, but also a text with a strong philosophical and epistemological background in India.

In order to situate this study within the context of the previous studies, a summary of the major studies conducted in the field of *Dhanurveda* and martial traditions in recent years is presented in Table 1, which gives an overview of the focus areas and methodological contributions of these studies. The range of studies, from archaeology and philology to philosophy and military history, is indicative of the variety of approaches and serves as the basis for this hermeneutic analysis.

Table 1: Overview of Major Studies on Dhanurveda and Martial Traditions

Author/Year	Work Title	Focus Area	Contribution / What is Being Done
Gommans (2002)	<i>Mughal Warfare</i>	Military tradition	Places Indian martial traditions in wider Mughal and Eurasian military practices, demonstrating continuity of practice.
Gorman (2016)	<i>Technological Development of the Bow</i>	Weapon technology history	Discusses materials science and engineering in the construction of bows with an emphasis on experimentation.
Vandkilde (2015)	<i>Weapons and Warfare [2 vols]</i>	Comprehensive weapon history	Provides a comparative archaeological context, placing Indian weapon development in the world context of transitions from the Bronze to the Iron Age.
Lahiri (1995)	<i>Indian Metal Artifacts</i>	Archaeological evidence	Identifies and presents findings on metal weapons, linking them to descriptions of martial practice in texts.
Kulkarni (1952)	<i>Dhanurveda & Lexicography</i>	Linguistic analysis	Offers a philological study of martial vocabulary, the Sanskrit classification of weapons.

Coomaraswamy (1971)	<i>Symbolism of Archery</i>	Philosophical significance	Interprets archery in symbolic and cosmological terms, relating martial arts and Indian philosophy.
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Archaeological and Textual Evidence of Weapon Technology

The findings of the archaeology support the textual evidence of weapon technology. The Indus Valley Civilization (2600–1900 BCE) produced some of the most advanced bronze weapons, such as axe heads with precision-cutting edges and composite weapons that combined various materials ([Tewari, 2003](#); [Vandkilde, 2015](#)). The shift to iron in the 1200 BCE brought a technological revolution, which allowed for the development of more powerful weapons and new tactics. [Lahiri \(1995\)](#) classified the metal weapons from the archaeological sites and noted parallels with the textual description, tracing the evolution of bow technology from the Rigvedic period to the medieval period, documenting the development of bows and archery techniques ([Chakrabarti, 1992](#)). The shift from bronze to iron weapons in India appears to have been part of a larger technological revolution that took place in Eurasia in general, as evidenced by comparative evidence from the Greek and Chinese martial traditions. Furthermore, the Agni Purana and Arthashastra descriptions of iron-tipped arrows and fortified structures correspond very well with archaeological findings, thus supporting the empirical foundation of the Dhanurveda. The bow and spear traditions continued in medieval Indian martial arts, and are still alive in regional traditions like Silambam and Thang ta, which further demonstrates the continuity of weapon technologies described in the text. These studies together show that the *Dhanurveda* is not a theoretical construct, but rather a collection of practical experience passed down from generation to generation, and that it is a repository of martial knowledge.

Hermeneutic Approaches to Martial Texts

The study of martial texts is given interpretive depth by Hermeneutic methodologies. [Gadamer \(2004\)](#) highlighted the “horizon of meaning” and placed texts in their author's worldview, while [Ricoeur \(1981\)](#) maintained that texts may have symbolic meanings that go beyond literal denotation, and that must be interpreted to reveal these meanings. In the context of Dhanurveda, hermeneutics enables scholars to understand martial knowledge as a technical teaching and as a philosophical discourse. [Smith \(1987\)](#) has shown that the hermeneutic reading approach can reveal several layers of meaning in Indian philosophical and technical texts. The Dhanurveda, in this context, is not just a book of weaponry and tactics, but also a testament to the intellectual legacy of India, where martial arts are intertwined with cosmology, ethics, and epistemology. Hermeneutic analysis can therefore help us to go beyond the simple cataloging of weapons and techniques and to discover the ways in which martial knowledge was incorporated into the ethical, cosmological, and pedagogical systems. The Dhanurveda's emphasis on symbolism as a means of understanding the martial text is echoed in other traditions, such as those of Greek and Chinese martial arts, which also rely on symbolism to convey meaning.

Research Gap and Rationale

The *Dhanurveda* is of great importance but is not much explored in modern scholarship. The current literature is descriptive or limited in scope, not taking into account the text as a whole system of martial knowledge. There is a lack of empirical research on the integration of multidisciplinary learning in martial traditions. Although the concept of multidisciplinary education is a part of the intellectual heritage of India, there has been little attempt to comprehend the interdependent processes that enable this type of education in the context of military sciences.

This study aims to fill these lacunas by using hermeneutic approaches in decoding the *Dhanurveda Samhita*. The research places the text in its historical, cultural, and philosophical context and systematically catalogs its martial methodologies and weapon systems, thereby uncovering the underlying logic and relationships within the text. The aim is to bring the *Dhanurveda* out of the past and make it a contemporary knowledge system that represents the synthesis of theory and practice within classical Indian intellectual traditions.

METHODOLOGY

The research method used in this study is a qualitative hermeneutic approach, which combines textual analysis, archaeological corroboration, and comparison. The methodology aims to decipher the *Dhanurveda Samhita* as a martial manual as well as a multi-faceted knowledge system that is part of the intellectual heritage of India.

Textual Sources and Selection Criteria

This study employs an integrated approach to textual sources, drawing upon three primary manuscript traditions complemented by references in secondary texts. The main sources are:

1. The partial *Dhanurveda Samhita* preserved in the Saraswati Mahal Library, Tanjore (SMLT 1847), dated paleographically to the 12th century CE.
2. Extensive fragmentary references in the *Mahabharata* corpus and its commentaries.
3. Parallel accounts in the *Arthashastra* of Kautilya, which provide corroborative evidence of martial organization and weapon systems.

The passages were chosen based on clear criteria: weapon systems, combat techniques, defensive strategies, and tactical applications. Non martial passages were omitted to focus on the technical and strategic aspects of the text. For the purpose of clarifying the textual basis of this study, the main historical sources of the *Dhanurveda* tradition and their significance are summarized in Table 2.

Table 2. Key Historical Sources of *Dhanurveda* and Their Significance

Source	Date/Period	Significance
<i>Dhanurveda Samhita</i> (SMLT 1847)	12 th century CE	Saraswati Mahal Library – primary ancient source
<i>Agni Purana</i> (ch. 248–251)	8 th –11 th century CE	Most complete surviving Dhanurvedic text
<i>Dhanurveda Samhita</i> (Vasiṣṭha)	17 th century CE	Compiled from earlier traditions
<i>Mahabharata & Arthashastra</i>	2 nd –4 th century CE	Supporting martial science references

Classification Framework and Coding System

To systematically decode the content, six main categories of extraction were identified:

1. Weapon type and designation.
2. Material composition and engineering specification.
3. Combat methodology and technique.
4. Tactical application and battlefield context.
5. Defensive technique and protective methodology.
6. Strategic context and broader military considerations.

These categories were developed through an iterative process of review and confirmed with Sanskrit military text scholars, material culture specialists and traditional Indian martial artists (Chakraborty, 2020). This allowed the classification system to be true to the text tradition and comprehensible to contemporary scholarship.

Hermeneutic Interpretation Principles

The hermeneutic framework was developed in the light of current text research, while being careful not to impose contemporary interpretive structures on ancient texts. The interpretive approach aimed to understand the meaning and application of these teachings in the historical and technological contexts of martial sciences practitioners.

Special emphasis was placed on uncovering tacit assumptions about:

- Human physiology and training.
- Material characteristics of weapons.
- Acoustical and ballistic properties of projectiles.
- Battlefield conditions and tactical constraints.

In the wake of Gadamer's idea of the "horizon of meaning" (2004), interpretation involved placing the text in the worldview of its authors and practitioners. The hermeneutic theory of Ricoeur (1981) also informed the analysis, emphasizing symbolic meanings and patterns that go beyond literal denotation.

Analytical Approach

This study is not quantitative in nature, but rather qualitative, hermeneutic analysis. The textual passages were read iteratively, oscillating between parts and whole in the hermeneutic circle, to enhance the understanding of martial methodologies. Comparative analysis with archaeological evidence and parallel textual traditions (e.g., Arthashastra, Agni Purana) was employed to validate interpretations.

In this way, the *Dhanurveda Samhita* can be comprehended as a knowledge system that is not static, but rather is alive and is a combination of battlefield experience and theoretical concepts from classical Indian epistemology.

Findings and Analysis

Weapons, Material Composition, and Combat Methodologies

The *Dhanurveda Samhita* combines the classification of weapons with the material and combat skills. The arms of projectiles (bow and arrow, bamboo, horn, iron tips) and striking arms (swords and axes, agility and timing) are described. Defensive weapons such as shields and armor are made from plant fibers and hide, while siege weapons are the result of strategic engineering. Importantly, each weapon is associated with a particular combat discipline, indicating that tools and techniques were not separable.

The dual focus is based on empirical knowledge of material science, which is supported by archaeological findings of iron and bronze weaponry in South Asia (Lahiri, 1995; Singh, 2014; Vandkilde, 2015). Table 3 illustrates that weapons are classified by type, material, and methodology, and tactical roles are built into the design of the weapon.

Table 3. Weapons, Material Composition, and Combat Methodologies

Weapon/ Discipline	Examples	Material Composition / Engineering	Combat Methodology / Technique	Tactical Role
Projectile arms / Archery	Bow, arrow, sling	Bamboo, horn, iron tips, feathering; tensile strength	Precision, rhythm, bodily control	Long-range battlefield dominance

Striking arms / Swordsmanship	Sword, axe, club	Iron, bronze, hardwood; balanced for timing	Agility, timing, decisive strikes	Decisive close combat
Defensive arms / Shield coordination	Shield, armor	Plant fibers, hide, layered wood; layered durability	Shield-weapon integration	Sustained protection in formations
Cavalry maneuvers	Horse-mounted combat	Leather harness, iron stirrups, composite bows	Speed, flanking, disruption	Strategic battlefield mobility
Siege weapons / Fortification	Catapult, fortified structures	Stone, timber, iron reinforcements	Engineering of large-scale devices	Settlement protection and offensive disruption

Detailed Classification of Weapons and Defensive Equipment

Apart from the general typology given in Table 1, the text also offers a philological classification of weapons and defensive equipment, based on functional category, Sanskrit terminology, characteristics and reference sources. This classification reflects the wide range of martial knowledge, from divine astras to armor. Each weapon is traced in primary sources like *Mahabharata*, *Agni Purana* and *Dhanurveda Samhita*, with the help of archaeological evidence and secondary scholarship ([Kulkarni, 1952](#); [Lahiri, 1995](#)).

Table 4. Classification of Weapons and Defensive Equipment in Dhanurveda: Sanskrit Terminology, Characteristics, and Literary Sources.

Category	Weapon Type	Sanskrit Name	Characteristics	Primary Reference Source	Secondary References
A. Projectile Weapons (Mukta)	Brahmastra	Brahmastra	Celestial weapon – divine origin, supernatural power	<i>Mahabharata</i> (multiple books)	<i>Ramayana</i> ; Vedic texts
	Brahmadanda	Brahmadanda	Divine rod weapon – mystical origin	<i>Agni Purana</i> (ch. 249–250)	<i>Dhanurveda Samhita</i> (Vasiṣṭha)
	Arrow	Bana/Shashtra	Wood/metal construction – primary projectile ammunition	<i>Agni Purana</i> (ch. 249–250); <i>Dhanurveda Samhita</i> (SMLT 1847)	<i>Arthashastra</i> ; Singh (2014)
	Chakram/Discus	Chakra	War-quoit with 3, 4, or 8 spokes – multiple applications	<i>Agni Purana</i> (ch. 251); <i>Dhanurveda Samhita</i> (Vasiṣṭha)	<i>Brahma Purana</i>

	Sataghni	Sataghni	Group-killing weapon – multiple casualty projectile	<i>Agni Purana</i> (ch. 249); <i>Dhanurveda Samhita</i> (Vasiṣṭha)	Exotic India Art
	Slingshot	Gulla/Phena	Manual projectile launcher – rope/leather construction	<i>Agni Purana</i> (ch. 251)	Indian martial arts texts
	Vajra	Vajra	Diamond weapon – thunderbolt of Indra, unbreakable	Vedic texts; <i>Brahma Purana</i>	<i>Mahabharata</i> ; Puranic literature
	Vayavyaka	Vayavyaka	Wind-based weapon – advanced/mythological application	<i>Dhanurveda Samhita</i> verse 1.195 (WisdomLib)	<i>Dhanurveda Samhita</i> (Vasiṣṭha)
	Astra (Generic)	Astra	Generic term for missiles – “that which is hurled”	<i>Agni Purana</i> ; <i>Arthashastra</i>	Sanskrit military texts
B. Striking/Impact Weapons (Amulita)	Sword	Asi/Khadga	32 documented fighting positions – iron/steel construction	<i>Agni Purana</i> (ch. 251); <i>Dhanurveda Samhita</i> (SMLT, 1847)	<i>Mahabharata</i>
	Mace	Gada	Heavy striking weapon – elite warrior weapon	<i>Agni Purana</i> ; <i>Brahma Purana</i>	<i>Mahabharata</i> ; Kulkarni (1952)
	Club	Danda/Vadga	Basic striking weapon – wood/reinforced wood	<i>Agni Purana</i> (ch. 251); <i>Brahma Purana</i>	<i>Dhanurveda Samhita</i>
	Axe	Parashu	Iron head on wooden handle – cutting weapon	<i>Agni Purana</i> ; Archaeological evidence	Indus Valley artifacts; Lahiri (1995)
	Battle Axe	Maharashu	Larger iron head – enhanced axe variant	<i>Agni Purana</i> (ch. 249–250)	Archaeological finds
	Hammer	Vapra/Ankuri	Metal head on wooden shaft – impact weapon	<i>Agni Purana</i> ; <i>Arthashastra</i>	Military engineering texts
	Tomara	Tomaravastra	Iron club – specialized striking weapon	<i>Agni Purana</i> (ch. 251); <i>Dhanurveda</i>	Exotic India Art

				<i>Samhita</i> (Vasiṣṭha)	
	Bhindipala	Bhindi-pāla	Heavy club with bent tail-end (~18 inches)	<i>Brahma Purana</i> (213.91, 214.84); <i>Agni Purana</i>	Dharmaśāstra texts
	Ankusa	Ankusa	Elephant goad – metal hook with handle	<i>Agni Purana</i> ; <i>Brahma Purana</i> (215.81)	Elephant warfare texts
C. Thrust/Pierce Weapons	Spear	Sula/Sulam	Primary thrust weapon – wood shaft with iron head	<i>Dhanurveda Samhita</i> (SMLT, 1847); <i>Agni Purana</i>	<i>Arthashastra</i> ; Singh (2014)
	Lance	Shula Dandi	Mounted thrust weapon – longer shaft	<i>Agni Purana</i> (ch. 249–250)	Cavalry warfare texts
	Dagger	Khanjaraka	Close-combat piercing weapon – iron/steel blade	<i>Agni Purana</i> (ch. 251)	<i>Mahabharata</i> ; martial arts texts
	Kunta	Kunta/Kuntaka	Specialized thrust weapon – metal point with shaft	<i>Agni Purana</i>	Vaṇa-based martial traditions
D. Rope/Binding Weapons (Muktamukta)	Rope	Rajju/Rassi	11 documented fighting techniques – fiber/leather	<i>Agni Purana</i> (ch. 251)	<i>Dhanurveda Samhita</i> (SMLT 1847)
	Noose	Pasha	5 documented rope operations – binding/restraint	<i>Agni Purana</i> (ch. 248)	<i>Arthashastra</i>
E. Armor & Shield Defensive Equipment (Raksha)		Kundala/Kavach	Wood/metal composite – multiple varieties	<i>Dhanurveda Samhita</i> (SMLT 1847); <i>Agni Purana</i>	<i>Mahabharata</i>
	Helmet	Shiras Kavach	Metal construction – head/face protection	<i>Agni Purana</i> (ch. 249); <i>Arthashastra</i>	Archaeological evidence
	Breastplate	Vakshas Kavach	Iron/bronze plates – chest protection	<i>Agni Purana</i> ; Vedic texts	Military equipment studies
	Armor Patterns	Kavach Vyuha	Protective configurations – against impacts	<i>Dhanurveda Samhita</i> (SMLT 1847)	Gorman (2016)

F. Specialized/Unique Weapons	Chakra Disc	Chakra	Multiple felling, severing uses: cutting,	<i>Agni Purana</i> (ch. 251); <i>Dhanurveda Samhita</i> (Vāsiṣṭha)	<i>Brahma Purana</i> ; <i>Mahabharata</i>
	Vajradanda	Vajradanda	Iron rod – punishment weapon	<i>Brahma Purana</i> (215.40, 215.53)	Cosmological texts
	Agnidanda	Agnidanda	Fire-infused striking weapon	<i>Brahma Purana</i> (217.81)	Tantric martial texts
	Yantra	Yantra	Mechanical devices – stationary/movable	<i>Arthashastra</i> ; <i>Agni Purana</i>	Siege warfare texts
	Astra (Generic)	Astra	Generic category for missiles/projectiles	<i>Agni Purana</i> (ch. 248–251)	Sanskrit military classifications

Defensive Techniques and Tactical Applications

The text focuses on defensive tactics like fortification design, protective armour, tactical retreat and terrain use. These passages show a high level of military organization, with a proactive approach to defense rather than a reactive one. Meanwhile, tactical elements like cavalry charges and shield formations emphasize adaptability on the battlefield.

These are similar to the strategies outlined in the *Arthashastra*, which also combines fortification, terrain use and organised retreat into the practice of statecraft (Gommans, 2002). Table 4 brings together defensive techniques and tactical applications, highlighting the importance of resilience and adaptability in martial practice.

Table 5. Defensive Techniques and Tactical Applications

Strategy / Application	Description	Battlefield Significance
Fortification design	Layered walls, moats, gates	Long-term settlement protection; control of access
Protective armor	Helmets, body shields	Individual defense; morale reinforcement
Tactical withdrawal	Organized retreat	Preservation of forces; regrouping for counter-attack
Terrain utilization	Hills, rivers, forests	Natural advantage; ambush and concealment
Formation defense	Shield coordination	Sustained protection in collective formations
Cavalry deployment	Speed, flanking, disruption	Strategic battlefield mobility; offensive-defensive balance

Strategic Context and Symbolic Interpretations

The hermeneutic analysis uncovers symbolic meanings that lie in martial practice. The bow, a symbol of restraint and release, the sword of decisiveness, the shield of endurance, are all metaphors for the human agency and cosmic

order. These insights place war in ethical and cosmological contexts, and it is clear that martial knowledge was technical and philosophical.

This interpretive aspect is in line with [Gadamer's \(2004\)](#) view on tradition as a horizon of meaning and Ricœur's focus on symbolic action (1981). The strategic and symbolic interpretations are shown in Table 5.

Table 6. Strategic Context and Symbolic Interpretations

Aspect	Interpretive Meaning	Broader Context
Bow	Balance between restraint and release	Symbol of discipline
Sword	Decisiveness, clarity, moral agency	Ethical combat
Shield	Protection, endurance	Collective defense
Arrow types	Elemental associations (fire, wind, water)	Cosmological order

These results confirm that the *Dhanurveda Samhita* is not just a single manual or just a technique, but a multidimensional system of knowledge which combines technical, strategic and philosophical aspects of martial arts. The evidence in the text provides support for each of these dimensions, which are further supported through interpretation.

1. In essence, the *Dhanurveda* is a technical manual (see Table 3), a directory of weapons, materials and techniques of combat. Systematically categorises projectile, striking, defensive and siege weapons, and correlates them with material composition and engineering characteristics. Arrows are referred to as having iron tips and feathering, bows as bamboo and horn, shields as layered combed plant fibers and hide. This demonstrates proto scientific understandings of the properties of materials (empirical knowledge of tensile strength, elasticity and durability) ([Lahiri, 1995](#); Singh, 2014; [Vandkilde, 2015](#)). Importantly, weapons are not shown as objects in themselves, but as an accompaniment to the techniques they can accomplish: archery, sword fighting, coordination with a shield, cavalry manoeuvres and siege techniques. Therefore, the *Dhanurveda* foretells the modern thinking of systems by combining design, material science and application in a single system.
2. The *Dhanurveda* is a Strategic Text that provides strategic principles beyond technical cataloguing (see Table 4). It focuses on the design of fortifications, use of protective armor, tactical withdrawals and the use of the terrain, demonstrating a deliberate and planned approach to defense rather than a reactive one. Field tactics like shield formations and cavalry uses emphasize adaptability and mobility on the battlefield. The strategies are consistent with the Arthashastra which combines military knowledge with statecraft, and teaches that fortifications, topography and organised retreat are vital to the governance and survival of a state ([Gommans 2002](#)). The *Dhanurveda* therefore places martial activity in context of the political and strategic organization, which clearly shows that warfare was not just a matter of personal combat but also of collective strength and political policies.
3. The *Dhanurveda* consists of a philosophical discourse, A Philosophical Discourse (see Table 5), which is a philosophical discourse containing martial practice in cosmological and ethical contexts. Weapons are symbols of metaphors as discovered with Hermeneutic analysis: Bow- restraint and release, Sword- decisiveness and clarity, Shield- endurance and collective protection. The different types of arrows are connected to the elements (fire, wind, water), placing martial activity within a cosmological framework.

This interpretive aspect is related with [Gadamer's \(2004\)](#) idea of tradition as horizon of meaning and Ricœur's (1981) focus on symbolic action. In this conception of warfare, it is not only technical or strategic, but moral and cosmological, that is, a balancing of human action and universal order. Thus the *Dhanurveda* also connects the empirical practice and moral reflection and illustrates that martial knowledge is embedded in the moral fabric of society.

Integrated significance, taken together, these dimensions confirm that the *Dhanurveda Samhita* is:

- A technical manual cataloging weapons, materials, and combat methodologies (Table 1).
- A strategic text outlining defensive and tactical principles (Table 2).
- A philosophical discourse embedding martial practice in cosmological and ethical frameworks (Table 3).

This shows that the *Dhanurveda* is not a marginal or peripheral text, but a core part of the intellectual heritage of the Indians. It provides insights into the practical and symbolic aspects of warfare, and even anticipates modern interdisciplinary approaches by combining engineering, physiology, psychology, and philosophy.

The overarching point to make is that knowledge systems are best when they are integrated, adaptable, and ethically informed. This fusion is exemplified by the *Dhanurveda*, a text that not only highlights the martial arts' role in survival but also underscores its practice as a holistic discipline of balance, resilience, and moral enlightenment.

DISCUSSION

The *Dhanurveda* as Empirically-Grounded Military Knowledge

The results of the analysis demonstrate that *Dhanurveda Samhita* is not a mythological relic, but a storehouse of military knowledge that has been tested in the field. The consistent link between weapon type, material characteristics, and the use of the weapons in the field is a reflection of the experience gained on the battlefield. The recommendations for such things as the iron to work with edges, the hardwoods to use for bows, and the specific woods to use for shafts demonstrate creativity in the use of resources. The pedagogical focus of the text, on recruitment selection, conditioning, and training for synchronized formations, also suggests that its authors were practitioners engaged in contemporary military issues.

Hermeneutic Implications and Epistemological Insights

Hermeneutic interpretation reveals hidden assumptions relating to human capacity, physical principles, and battlefield conditions. Bow draw weights are assumed to be in the calibrated state, and armor descriptions are based on experience of impact resistance. The teaching methodology of weapons from basic to advanced is analogous to Indian norms of epistemology which treat theory and practice as one. So, *Dhanurveda* is presented as a technical and a moral book, and the martial practice is placed in the ethical and cosmological context.

Comparative Context and Eurasian Military Systems

Comparative analysis places the *Dhanurveda* in a broader Eurasian military discourse. It is concerned with the composite weapons and integrated tactical systems like Hellenistic military treatises, but unique bow construction techniques, special types of arrows, and defensive formations based on Indian geography show new innovations. The text covers extensively elephant warfare, a unique Indian contribution not found in the Mediterranean warfare systems. The reliability of this account is attested by these accounts as they bear witness to firsthand knowledge of an era that is the subject of this text.

Taken together, these dimensions reveal that the *Dhanurveda Samhita* is:

- A **technical manual** cataloging weapons, materials, and combat methodologies.
- A **strategic text** outlining defensive and tactical principles.
- A **philosophical discourse** embedding martial practice in cosmological and ethical frameworks.

This demonstrates that the *Dhanurveda* is a multidimensional knowledge system, anticipating modern interdisciplinary approaches by blending engineering, physiology, psychology, and philosophy.

Implications and Learnings

The hermeneutic decoding of the *Dhanurveda Samhita* offers several implications for both the study of Indigenous Knowledge Systems (IKS) and their relevance to contemporary learning.

Integration of Theory and Practice

The *Dhanurveda* is an example of Indian epistemological approach which involves knowledge through practice. It is systematic from the material to the tactical use, and theory and practice were never separated. This means that in today's education, experiential learning and practical knowledge continue to play a significant role.

Multidisciplinary Knowledge Ecosystem

The text brings together all the strands of engineering, physiology, psychology and philosophy in a single martial framework. This multi-disciplinary nature is a reflection of the Indian tradition of integral education. The present-day learning may learn from this and develop curricula that do not confine learning to merely disciplinary learning but promote integrated problem solving.

Pedagogical Sophistication

The way the use of weapons progresses from easy to hard is similar to that of mathematics, medicine, and other classical sciences, which teach them progressively. It is very important to have structured learning pathways that are still relevant for contemporary designing of education, particularly when it comes to skills based training and leadership development.

Ethical and Cosmological Grounding

The presentation of weapons and tactics does not show the technology to be neutral, but as a metaphor for discipline, decisiveness, and collective defense. The ethical imbedding of technical knowledge is a reminder of the value of instilling values, resilience and moral clarity in contemporary education.

Comparative and Global Relevance

The *Dhanurveda* not only shows continuity with larger Eurasian military innovations, but also shows unique innovations like elephant warfare. This comparative dimension sheds light upon the Indian contribution to the world of knowledge exchange and reminds people of today that indigenous knowledge is grounded in the local, but is also global.

Key Learnings for Contemporary Context

Systems Thinking: The *Dhanurveda* anticipates modern approaches by linking design, material science, and tactical application into a coherent system.

Resilience and Adaptability: Defensive strategies and tactical withdrawals emphasize adaptability — a lesson for leadership and organizational resilience today.

Interdisciplinary Education: The text models how diverse domains of knowledge can be integrated into a single pedagogical framework.

Ethical Leadership: By embedding martial practice in cosmological and moral frameworks, the *Dhanurveda* teaches that technical expertise must be balanced with ethical responsibility.

Continuity of Indigenous Knowledge: The survival of practices like *Silambam* and *Thang-ta* illustrates

CONCLUSION

The *Dhanurveda Samhita* has been shown to be much more than an epiphenomenal martial manual in this study. It is found as a multi-dimensional knowledge system via hermeneutic analysis, archaeological corroboration and comparative contextualisation that involves empirical practice, strategic organisation and philosophical reflection. The systematic treatment of the technology of weapons, tactical formations and symbolic connotations demonstrate that the work was based on actual battlefield experience and also in ethical and cosmological contexts.

The salient findings emphasize the continuing pertinence of the *Dhanurveda*: it illustrates the intermingling of theory and practice, the start of systems thinking, and the pedagogical sophistication. Ethically, it reminds us that technical skills need to be accompanied with moral responsibility and, comparatively, it places Indian martial traditions in the context of local and global knowledge exchanges.

The *Dhanurveda* provides a blueprint for interdisciplinary learning, for contemporary scholarship and education, for the integration of engineering, physiology, psychology and philosophy, into a coherent pedagogical framework. It highlights the strength of Indigenous Knowledge Systems and their ability to inform present-day situations like leadership, resilience training, and holistic education.

This research not only places *Dhanurveda Samhita* in the realm of living knowledge but also shows its potential to enrich the learning process in modern times. It thus joins the past with the present, demonstrating that the knowledge of the classical texts still provides ways to travel for integrated, ethical, and resilient knowledge processes today.

AUTHOR DECLARATIONS

CREDIT AUTHOR STATEMENT / AUTHORS' CONTRIBUTIONS

Dhruv Bagga: Writing, Conceptualization, Literature Review, Textual Analysis, Manuscript Drafting and Revision

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