# Scientific Ideologies in Thirukkural

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**Abstract**
*Thirukkural is an ancient and universal moral scripture that expresses morals which are valid for all life. It is divided into three sections of virtue (Aram), wealth (Porul), and love (Inbam), and consists of 133 chapters and 1330 couplets. The term 'Tamil' is used but the word is not mentioned in the text, a deliberate choice by the author to make it a universal scripture with no linguistic or cultural restrictions. Thiruvalluvar's Thirukkural combines various spheres of knowledge, ethics, epistemology, natural sciences, and philosophy. The text is based on findings of physiology, psychology, botany, zoology, physics, chemistry, astronomy, soil science and ecology. Curiously, concepts that later came to be used by scientists like Galileo Galilei, Aristotle, Charles Darwin, and Carolus Linnaeus seem to have conceptual counterparts in the Kural centuries that were earlier in development. The purpose of this study is to systematically review and bring to light the scientific ideologies present in Thirukkural in various scientific fields like ecology, hydrology, microbiology and anthropology.*

**Keywords: Thirukkural, Thiruvalluvar, Scientific Ideology, Five Elements, Ecology.**

## Introduction

Thirukkural, is a beautiful universal work of philosophy that speaks about ethical, social and existential nature of life without ever being overtly regional, linguistic, religious and cultural. It can be easy to state moral positions, but hard to leave them out in human experience. In the larger context, human progress is built on the never-ending search for knowledge, reflection and moral discipline. Thiruvalluvar offers a holistic philosophy of life based on the three pillars, Aram (virtue), Porul (wealth) and Inbam (love).

This cosmopolitan insight is echoed by the classical Tamil tradition of poetry, which, in the case of Kaniyan Poongunranar, sees human life flowing out into the world like water through channels, breaking free from parochial social and geographical boundaries. The Thirukkural shares the same approach. It is not confined to local culture but states the ethical values that apply to the human race in general. Scholars such Sanjay Jha et al. (2023), in

their study Tirukkural: Literature Breaking Barriers, describe the Thirukkural as one of the world's greatest ethical texts, which transcends geographical boundaries, language, origin, and religion. The Thirukkural is also an indirect understanding of the five great elements of nature: earth, water, fire, air and space, all of which together constitute the basis of the natural universe. By delving into a variety of fields that go beyond traditional literary expression, such as environmental studies, anthropology, psychology, government, and natural science, Thiruvalluvar exhibits extraordinary intellectual range. Many of the couplets display levels of meaning that are similar to pre-scientific and observational thinking.

The intellectual brilliance of the Thirukkural is due to the fact that it offers the scope for interpretation. Readers from various historical eras and academic backgrounds can gain fresh insights from the work since each couplet distils several facets of meaning into a highly condensed poetry form. This makes the Thirukkural an invaluable source of ecological, sociological and philosophical information as well as a literary and ethical masterpiece. It still has relevance because it is able to receive moral, logical and scientific interpretations at the same time.

In this context, the present study aims to explore the degree of embedding of scientific concepts and ideas in the Thirukkural, specifically Thiruvalluvar's observations on nature, ecology, human behaviour and environmental balance. The study also examines how these insights expose a complex way of thinking that is intertextual, ethical, experiential, and observational and coalesces into a unified understanding of human life and the natural world.

**Analysis**

This study uses a multi-stage analytical method to organize the ideological domains in a systematic way into coherent hypotheses. The conceptual mapping approach is used wherein each identified ideology of the Thirukkural is explored. This is followed by a cross domain pattern analysis to find "commonalities" between them and across different fields of knowledge. Then, philosophical clustering is used to elucidate the ontological commitment in the text. This method incorporates a logical analysis, empirical comparison, and interpretative validation to achieve a systematic grasp of the scientific ideologies inherent in the Thirukkural.

**Hypothesis**

$H_1$: Natural Systems Ideology: Knowledge by biological and physical environmental processes.

$H_2$: Consciousness and Meaning Ideology – Understanding through subjective experience, cognition, and interpretation.

$H_3$:Emergent Complexity Ideology: Learning about a system that is greater than the sum of its parts, connecting natural and artificial systems

**H1: Natural Systems Ideology**

Hydrological Ideologies (Scientific Principles of Rain Formation)

Water is one of the most essential natural resources on Earth and forms the foundation of all life systems. Thiruvalluvar explains both the importance of water and its cyclical nature with remarkable ecological insight.

நெடுங்கடலும் தன்நீர்மை குன்றும் தடிந்தெழிலி
தான்நல்கா தாகி விடின் (குறள் 17)

Nedunkadalum than neermaai kunrum thadindhezhili
than nalka thaagi vidin (Transliteration).

This couplet suggests that even the vast ocean would diminish if clouds fail to rise and return water as rain. It reflects an early conceptualization of the hydrological cycle, where water evaporates

from large water bodies, forms clouds, and returns as precipitation. According to contemporary science, water from rivers, lakes, and seas evaporates as a result of the sun's heat, rises into the sky, forms clouds, and ultimately returns to the ground as rain (Chow et al., 1988). The Thirukkural indirectly acknowledges the hydrological cycle, which is the ongoing flow of water. The name "ezhini," which means "rain-bearing clouds," demonstrates how closely the ancient Tamil people studied natural processes and recognized the significance of rainfall in preserving the natural equilibrium (Zvelebil, 1973).

Thiruvalluvar further emphasizes the indispensability of rain:

விசும்பின் துளிவீழின் அல்லால்மற் றாங்கே
பசும்புல் தலைகாண்பு அரிது (குறள் 16)
Visumpin thuli vizhil allaal matraange
pasumpul thalaikanbu aridu (Transliteration).

This couplet highlights that without rainfall; even the simplest vegetation cannot emerge, underlining the dependence of life on water and ecological balance.

Furthermore

விண்இன்று பொய்ப்பின் விரிநீர் வியனுலகத்து
உள்நின்று உடற்றும் பசி (குறள் 13)
Vin indru poyppin virineer viyanulagathu
ul ninru udatrum pasi (Transliteration)

This couplet states that if rain fails, hunger will spread throughout the world, even though vast bodies of water surround it. The verse highlights the essential role of rainfall in supporting agriculture and sustaining human life. Without adequate rain, crops cannot grow, leading to food shortages and famine. Modern environmental science similarly recognizes that rainfall is a key factor in agricultural productivity, food security, and ecosystem stability (FAO, 2021). By linking rainfall directly to human survival, Thiruvalluvar demonstrates an early understanding of the dependence of societies on natural water resources and sustainable agricultural systems.

**Botanical Ideologies**

The scientific study of plants, including their taxonomy, structure, and ecological roles, is known as botany. Thiruvalluvar offers a variety of botanical allusions, including thorn apple (Nerunji), palm (Panai), millet (Thinai), flowers, trees, and fruits within ethical and metaphorical settings. The Thirukkural reveals an early and sophisticated awareness of plant life. The chapter on hospitality contains a noteworthy example:

மோப்பக் குழையும் அனிச்சம் முகந்திரிந்து
நோக்கக் குழையும் விருந்து (குறள் 90)
Moppak kuzhaiyum anichcham mugandhirindu
nokkak kuzhaiyum virundhu (Tranliteration).

This couplet draws a comparison between hospitality and the anicham flower, saying that just as the flower wilts when it is scented, hospitality loses its worth when it is extended with an unpleasant or hostile expression. This metaphor illustrates how early ecological observation was incorporated into ethical philosophy. In academic interpretations, the anicham flower is frequently associated with delicate plant species like Mimosa pudica (touch-me-not), which is a member of the Fabaceae family and is distinguished by its quick response to contact by folding its leaves (Raven et al., 2013). This suggests that observable botanical knowledge may be blended into poetic expression in early Tamil literature. Thiruvalluvar may have had a keen observational knowledge

of natural phenomena based on the specific reference to plant behaviour. The Thirukkural recorded plant characteristics through metaphorical and functional representation long before formal classification systems were created by Carl Linnaeus in the 18th century (Linnaean taxonomy) and evolutionary interpretations by Charles Darwin in the 19th century (Stearn, 1992; Darwin, 1859). As a result, the Thirukkural integrates plant behaviour, ecological sensitivity, and human values into a cohesive philosophical framework while simultaneously acting as an ethical book and reflecting proto-scientific botanical knowledge.

**Zoological Ideologies**

Thirukkural uses rich natural analogies to convey a deep grasp of living things, their instincts, and ecological behavior. Thiruvalluvar reflects an early kind of bio-zoological observation ingrained in literary representation by methodically using animals, birds, and insects to discuss ethical and psychological concepts. The tortoise metaphor serves as an example of the concept of sensory control:

ஒருமையுள் ஆமைபோல் ஐந்தடக்கல் ஆற்றின்
எழுமையும் ஏமாப் புடைத்து (குறள் 126)
Orumaiyum aamaipol aindadakkal arrin
ezhumaiyum emaap pudaiththu (Transliteration).

This couplet compares sense control to a tortoise withdrawing its limbs into its shell, symbolizing self-regulation and protection from harm. In modern biological interpretation, this reflects an understanding of defensive behaviour in reptiles, particularly protective withdrawal mechanisms observed in tortoises (Alcock, 2013). Similarly, Thiruvalluvar uses avian behaviour to express ecological and strategic intelligence:

பகல்வெல்லும் கூகையைக் காக்கை இகல்வெல்லும்
வேந்தர்க்கு வேண்டும் பொழுது (குறள் 481)
Pagal vellum koogaiyaai kaakkai igalvellum
vendharkku vendum pozhuthu (Transliteration).

Here, the owl dominates at night while the crow dominates during the day, illustrating temporal adaptation and survival strategy among species. This aligns with modern ecological understanding of diurnal and nocturnal behavioural adaptations in birds (Gill, 2007). Further, behavioural stillness and precision in predation are described:

கொக்கொக்க கூம்பும் பருவத்து மற்றதன்
குத்தொக்க சீர்த்த இடத்து (குறள் 490).
Kokkokka koombum paruvaththu matradhan
kuththokka seertha idaththu (Transliteration).

This describes the heron standing motionless before striking prey, reflecting a detailed observation of predatory hunting strategies. Such behaviour corresponds with modern ethological studies of patience-based feeding strategies in wading birds (Krebs & Davies, 1993). Likewise, aquatic adaptation is explained through the crocodile,

நெடும்புனலுள் வெல்லும் முதலை அடும்புனலின்
நீங்கின் அதனைப் பிற (குறள் 495).
Neṭumpuṉaluḷ vellum mutalai aṭumpuṉalin
nīṅkin ataṉaip piṟa (Transliteration)

This couplet illustrates the ecological principle that an organism's strength and survival are closely linked to its natural habitat. The crocodile, a powerful predator in deep water, loses its advantage when removed from its aquatic environment and placed on land. Through this observation, Thiruvalluvar highlights the importance of environmental adaptation and habitat-specific fitness;

concepts that closely correspond to modern theories of ecological niche specialization and adaptive survival in reptiles (Pianka, 2011). Such examples demonstrate Thiruvalluvar's keen awareness of animal behavior and ecological relationships. His references to the habits, instincts, and survival strategies of various living organisms reveal careful observation of the natural world. Although expressed through poetic metaphor, these descriptions parallel several principles recognized today in zoology, ethology, and behavioural ecology. Consequently, the Thirukkural may be viewed as containing an early form of biological and ecological understanding, where empirical observations of nature are skillfully integrated into ethical and philosophical teachings.

**H2: Consciousness and Meaning Ideology:**
**Philosophical Ideologies**

The word "arivu" (knowledge) refers to a variety of concepts, including perception, comprehension, intellect, and wisdom. Traditional Tamil interpretive works like Devaneya Pavanar's Thirukkural Maraburai, which consider knowledge as a dynamic cognitive process rather than a static idea, build on this layered semantic framework (Pavanar, 1971). As a discipline, philosophy makes it possible to critically analyze reality and articulate truth by reasoned investigation. Thirukkural uses many couplets to define the epistemological basis of knowing. According to Thiruvalluvar:

எப்பொருள் யார்யார்வாய்க் கேட்பினும் அப்பொருள்
மெய்ப்பொருள் காண்ப தறிவு. (குறள் 423)
Epporul yaaryaar vaay ketpinum apporul
meipporul kaanba tharivu (Transliteration).

This couplet underscores the principle that, genuine knowledge depends on the ability to discern truth, regardless of the origin of the information. From an epistemological perspective, this reflects a commitment to objective verification and critical reasoning as essential processes in the acquisition of knowledge, closely resonating with contemporary discussions on justified belief and the limits of epistemic certainty (Gettier, 1963).

In an alternative epistemic articulation, Thiruvalluvar further emphasizes the foundational role of sensory perception in shaping human understanding. Knowledge, in this view, emerges through direct experiential engagement with the external world, highlighting the importance of empirical observation as the primary basis of cognition.

சுவைஒளி ஊறுஓசை நாற்றமென ஐந்தின்
வகைதெரிவான் கட்டே உலகு. (குறள் 27)
Suvai oli ooru osai naatramena aindhin
vagaitherivaan kattē ulagu (Transliteration).

This couplet identifies the five sensory modalities—taste, sight, touch, sound, and smell—as fundamental to perceiving and interpreting the world. This reflects an early phenomenological framework of cognition comparable to modern theories of perception in cognitive science (Goldstein, 2014).

Psychology, as a scientific discipline, studies human behaviour and mental processes. The Thirukkural contains significant psychological insights, particularly regarding motivation and resilience:

தெய்வத்தான் ஆகா தெனினும் முயற்சிதன்
மெய்வருத்தக் கூலி தரும். (குறள் 619)
Deivaththaan aagaa theninum muyarchithan
meivaruththak kooli tharum (Transliteration).

This couplet asserts that even if fate is unfavourable, sustained effort yields proportional outcomes. It reflects the psychological principle of self-efficacy and intrinsic motivation, closely

aligned with modern behavioural psychology (Bandura, 1997). In emotional psychology, Thiruvalluvar presents a sophisticated understanding of affective duality:

இருநோக்கு இவளுண்கண் உள்ளது ஒருநோக்கு
நோய்நோக்கொன் றந்நோய் மருந்து. (குறள் 1091).
Irunokku ival unkan ulladu; oru nokku
noi nokku, onru annoi marundhu (Transliteration)

This line reflects complicated human affective states akin to contemporary ideas of emotional ambivalence in psychology, illustrating the paradox of emotional experience in which the beloved's gaze both causes emotional suffering and acts as its remedy (Plutchik, 2001). The Thirukkural is a fundamental book for interdisciplinary philosophical research because Thiruvalluvar shows a deep integration of psychology, epistemology, and human cognition within ethical discourse.

**H3: Emergent Complexity Ideology**

**Medical Ideologies**

Medical scientific ideas are abundantly reflected in the Thirukkural, where Thiruvalluvar presents early principles of health, balance, and preventive medicine. The text reflects a sophisticated understanding of physiological equilibrium and dietary regulation, which aligns with later developments in traditional and modern medical sciences. Thiruvalluvar emphasizes the importance of bodily balance through the regulation of fundamental bodily humours:

மிகினும் குறையினும் நோய்செய்யும் நூலோர்
வளிமுதலா எண்ணிய மூன்று. (குறள் 941)
Miginum kuraiginum noi seyyum noolor
vali mudhala enniya moondru (Transliteration).

This couplet reflects the classical Tamil medical conception of the three humours—vata, pitta, and kapha—whose imbalance is understood to result in disease. The idea of maintaining physiological harmony is closely aligned with the principles of Ayurveda, which similarly emphasizes the equilibrium of bodily doshas as essential for sustaining health and preventing illness (Sharma & Dash, 2000). Through this framework, the text reveals an integrated understanding of bodily function, where health is conceived as a dynamic balance among fundamental biological forces.

Further, Dietary Moderation is Strongly Emphasized

அற்றால் அறவறிந்து உண்க அ.்துடம்பு
பெற்றான் நெடிதுய்க்கும் ஆறு. (குறள் 943)
Atraal aravarindhu unga aghthudambu
perraan nedinthuyikkum aaru (Transliteration).

This verse advises regulated consumption based on necessity and ethical awareness, aligning with modern nutritional science that stresses balanced diet as essential for longevity and disease prevention (WHO, 2020).

**Conceptual Foundations of Artificial Intelligence in the Thirukkural**

The Thirukkural's emphasis on the structured application of knowledge can be interpreted as anticipating modern computational thinking and principles of artificial intelligence, in which knowledge is formalized and operationalized into systems for action, inference, and decision-making. In this framework, knowledge is not treated as passive accumulation but as an actionable resource that guides behaviour through systematic reasoning and ethical constraints. Thiruvalluvar's formulation thus reflects an early conceptual parallel to contemporary ideas in algorithmic decision-making, where structured rules and principles are used to produce consistent and goal-directed outcomes.

செய்வினை செய்வான் செயன்முறை அவ்வினை
உள்ளறிவான் உள்ளம் கொளல். (குறள் 677)
Seyvinai seyvan seyanmurai avvinai
ullarivaan ullam kolal (Transliteration).

This couplet emphasizes learning from prior experience and applying structured procedural knowledge for successful outcomes. This principle aligns closely with machine learning concepts, where systems learn from datasets and previous patterns to improve performance (Russell & Norvig, 2021).

Similarly

செயற்கை அறிந்தக் கடைத்தும் உலகத்து
இயற்கை அறிந்து செயல். (குறள் 637)
Seyarkkai arindhak kadaiththum ulagatthu
iyarkkai arindhu seyal (Transliteration).

This verse highlights the importance of aligning artificial constructs (seyarkkai) with natural principles (iyarkkai), reflecting an early conceptual analogy to system design, adaptive intelligence, and contextual computing in modern artificial intelligence frameworks (Nilsson, 2010). Thus, the Thirukkural demonstrates a proto-systemic understanding of knowledge application, where observation, adaptation, and structured reasoning form the basis of both medical and computational ideologies.

**Discussion**

The environmental philosophy embedded within the Thirukkural reflects a profound vision of universal life equality, in which all living beings are regarded as integral participants within a shared ecological continuum. Thiruvalluvar consistently articulates ethical principles that extend moral concern beyond anthropocentric limits, encompassing all forms of life within its moral framework. This inclusive worldview is clearly expressed in the celebrated couplet "பிறப்பொக்கும் எல்லா உயிர்க்கும்" (Kural 972), which asserts the fundamental equality of all beings at the moment of birth. Scholars have interpreted this verse as a radical ethical proposition that challenges hierarchical social distinctions and broadens moral consideration beyond inherited human divisions (Zvelebil, 1973). Similarly, the couplet "பகுத்துண்டு பல்லுயிர் ஓம்புதல்" (Kural 322) emphasizes the ethical imperative of equitable resource sharing and the protection of diverse life forms. This principle closely aligns with contemporary ecological ethics and bio centric philosophy, both of which affirm the intrinsic value of all living beings independent of their utility to humans (Naess, 1973).

Within this conceptual framework, the notion of uyir (life) in the Thirukkural expands into a form of ecological egalitarianism that encompasses humans, animals, and all other living organisms within a unified sphere of ethical responsibility. The text thus anticipates later environmental philosophies that emphasize interdependence, coexistence, and sustainability over anthropocentric domination of nature. Ecological observation and animal behaviour are subtly embedded within this ethical architecture. Ecology, commonly defined as the study of the interactions between organisms and their environments (Odum & Barrett, 2005), finds implicit expression in several Kurals through Thiruvalluvar's attention to survival strategies, fear responses, adaptation, and environmental constraints. For instance, "பரியது கூர்ங்கோட்டது ஆயினும் யானை வெரூஉம் புலிதாக் குறின்" (Kural 599) illustrates how even a powerful elephant instinctively fears the tiger, reflecting behavioural mechanisms associated with survival and predator–prey relationships as examined in modern ethology (Alcock, 2013). Likewise, "புதையம்பிற் பட்டுப்பா டுன்றுங் களிறு" (Kural 597) depicts an elephant trapped in marshy terrain, symbolizing ecological vulnerability

and the constraints imposed by specific habitat conditions. Through such imagery, the Thirukkural integrates ethical reflection with empirical observation of the natural world, offering an early literary articulation of ecological awareness.

The Thirukkural further contains references to numerous animals including the deer, elephant, lion, tiger, horse, swan, and peacock. These references are not merely ornamental literary devices but often function as behavioural analogies grounded in careful ecological observation. Such imagery suggests that Thiruvalluvar possessed a sophisticated awareness of animal conduct, environmental interdependence, and survival relationships within the natural world. Although it would be historically overstated to position Thiruvalluvar within a formal zoological tradition comparable to Aristotle, the Thirukkural nevertheless demonstrates an early integrative mode of ecological thinking in which animal behaviour, environmental conditions, ethical reflection, and human experience are treated as interconnected dimensions of existence. In this sense, the text may be understood as articulating a proto-ecological worldview that unites ethics, ecology, and practical observation within a coherent moral philosophy.

The Thirukkural articulates a profound ecological worldview in which the five classical natural elements—earth, water, fire, air, and sky—are fundamentally interconnected with human existence, ethical responsibility, and social sustainability. In this vision, nature is not conceived as an external or separate domain but as an integral continuum within which human life is embedded and sustained. Thiruvalluvar constructs an integrated philosophical framework in which environmental awareness, agricultural practice, moral reasoning, and principles of governance converge within a highly condensed poetic structure. Through this synthesis, the Thirukkural presents a holistic understanding of life that unites ecological balance with ethical conduct, emphasizing the interdependence between natural systems and human society.

Earth is portrayed as a fertile and life-sustaining element whose productivity depends upon proper cultivation and protection. This ecological sensitivity is clearly expressed in the couplet: "ஏரினும் நன்றால் எருவிடுதல் கட்டபின் ∴ நீரினும் நன்றதன் காப்பு" (Kural 1038), which emphasizes the importance of manuring, irrigation management, and safeguarding cultivated land. The verse reflects early agronomic principles concerning soil fertility and sustainable agriculture (Rajaram, 2012). Similarly, "பயவாக் களரனையர் கல்லாதவர்" (Kural 406) compares uneducated individuals to barren land, metaphorically linking ecological cultivation with intellectual and moral cultivation.

Water is presented as a foundational ecological resource essential for social and political stability. In "இருபுனலும் வாய்ந்த மலையும் வருபுனலும் வல்லரணும் நாட்டிற்கு உறுப்பு" (Kural 737), Thiruvalluvar emphasizes the importance of rivers, mountains, water reservoirs, and natural defenses as constitutive elements of a prosperous nation. Likewise, "மணிநீரும் மண்ணும் மலையும் அணிநிழற் காடும்" (Kural 742) describes an ideal environmental system composed of water bodies, fertile land, mountains, and shaded forests, closely resembling modern ecological concepts of environmental balance and ecosystem interdependence (Odum & Barrett, 2005).

Fire, functions both as a physical reality and as a moral metaphor. In "தீயவை தீயினும் அஞ்சப் படும்" (Kural 202), destructive actions are described as more dangerous than fire itself, emphasizing the ethical consequences of harmful conduct. At the same time, "நெருப்பினுள் துஞ்சலும் ஆகும்" (Kural 1049) symbolically associates endurance under extreme conditions with inner resilience and disciplined effort. Through such imagery, Thiruvalluvar transforms natural elements into vehicles for ethical reflection.

Air is represented as an invisible sustaining force that maintains cosmic and social equilibrium. In "அல்லல் அருளாள்வார்க்கு இல்லை வளிவழங்கும் மல்லன்மா ஞாலங் கரி" (Kural 244), air symbolizes the unseen yet essential forces that support life and harmony. Sky, particularly through rain and atmospheric balance, is portrayed as indispensable for both material survival and moral

order. This idea appears prominently in "தானம் தவம்இரண்டும் தங்கா வியன்உலகம் வானம் வழங்கா தெனின்" (Kural 19), which states that charity, ascetic practice, and social order cannot endure without rainfall, thereby recognizing ecological dependence as the basis of civilization itself.

The ecological framework of the Thirukkural also extends into human cognition and ethical self-regulation. In "பொறிவாயில் ஐந்தவித்தான் பொய்தீர் ஒழுக்க நெறிநின்றார் நீடுவாழ் வார்" (Kural 6), Thiruvalluvar connects control of the five senses with moral discipline and enduring social life. This insight parallels modern understandings in cognitive and behavioral psychology concerning self-regulation, perception, and disciplined conduct (Goldstein, 2014).

When taken as a whole, these insights demonstrate how the Thirukkural articulates a highly integrated ecological and pre-scientific worldview in which natural systems, human intellect, societal sustainability, and ethical behaviour all function as interrelated facets of life. The Thirukkural's portrayal of the natural elements, which foreshadows present concerns about environmental balance, responsible resource management, and the moral relationship between people and nature, confirms its continuous relevance in modern ecological and humanistic debate.

## Conclusion

The Thirukkural shows that ancient Tamil philosophy combined ethics with empirical analysis, implying that scientific principles were part of everyday life and culture. Thiruvalluvar's work is a holistic perspective on a world where nature, people, and knowledge systems are intertwined. In an ecological and philosophical way, it's read as covering all kinds of living beings which, in Saiva Siddhanta was divided into 8.4 million living beings, indicating an early perception of biodiversity in Tamil culture. Thirukkural is an encyclopaedic work in this sense since it is a fusion of moral philosophy with observation of nature and of life systems. Modern research also sees proto-scientific insights in the Thirukkural in fields like ecology, astronomy, agriculture and human behaviour. Its mention of water cycles, fertility of soil, and adaptation by organisms suggest an observation and awareness of environmental processes similar to the advances of modern science (Subbarayappa, 1997). The focus of the text on reasoned knowledge, ethical behaviour and disciplined living is structured. It represents a philosophical approach. It shares common characteristics with modern interdisciplinary approaches such as environmental sciences or systems thinking.

In general, the ability to adapt the Thirukkural in different scientific, ethical and philosophical interpretations make it a unique bridge between literature and knowledge systems. Thiruvalluvar's worldview is based on balance, responsibility and harmony with nature. The Thirukkural is still inspiring interdisciplinary research; it is an ethic guide and as a knowledge system, it is still relevant today and continues to be of world significance as work of enduring world heritage.

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