

Tirukkural and Science

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Tamil Language and Literature

Pondicherry University, Kalapet, Puducherry, India

OPEN ACCESS

Volume: 13

Special Issue: 5

Month: March

Year: 2026

P-ISSN: 2321-788X

E-ISSN: 2582-0397

Citation:

Nagalingam, T.
“Tirukkural and Science.”
*Shanlax International
Journal of Arts, Science
and Humanities*, vol. 13,
no. S5, 2026, pp. 58–61.

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DOI:

[https://doi.org/10.34293/
sijash.v13iS5-Mar.11085](https://doi.org/10.34293/sijash.v13iS5-Mar.11085)

Abstract

The Tirukkural, a universal scripture over two thousand years old, is primarily a book of ethics. Nevertheless, it contains within itself profound scientific principles and rationalistic thought. This paper aims to investigate how the Tirukkural, far from being just an ancient literary work, astonishingly aligns with the fundamental concepts across various fields of modern science, such as medicine, psychology, agriculture, management, and geography (or astronomy). This article establishes, with evidence, that the observational and analytical methodology of Thiruvalluvar and the principles he puts forth are relevant even to the scientific world of today. The core of this research is to reveal that the Kural is a rational document that promotes a Scientific Temper, and that through phrases like ‘Suzhandrum Ulagam’ (The world, even if it revolves), he has subtly indicated modern astronomical concepts.

Keywords: Tirukkural, Science, Truths, Geography (or Astronomy), Revolving World.

Introduction

The Tirukkural, revered as the “Universal Code of Conduct” (Ulagam Potumarai), is an unparalleled guide for all humanity, transcending caste, religion, race, language, and time. Thiruvalluvar succinctly and profoundly expounded upon the three major divisions of life—Virtue (Aram/Dharma), Wealth (Porul/Artha), and Love (Inbam/Kama)—across 133 chapters and 1330 couplets (Kural). Although primarily approached as a work of ethics and philosophy, a closer look at the Tirukkural reveals the roots of modern science. Valluvar does not discuss science as a separate discipline; rather, he emphasizes the necessity of a scientific approach in every aspect of life. He stresses the importance of knowledge by comparing both science and mathematics (as enn, meaning number/data) and arts and literature (as ezhuthu, meaning letter/writing) to the two eyes of a living being in the Kural:

“Ennenpa ēṇai eḷuttenpa ivviraṇṭum

Kaṇṇenpa vāḷum uyirkku.” (Kural: 392)

(Translation: “The two are called numbers and letters (knowledge); these two are the eyes of the living being.”). This article examines the medical, psychological, agricultural, and management-related scientific elements embedded within the Tirukkural.

Scientific Concepts and Principles in the Tirukkural

The Tirukkural is not a modern science textbook, but many of its couplets reveal deep scientific truths and systematic approaches.

Diagnosis (Medical Science)

Modern medicine is based on Diagnosis, Prevention, and Treatment. Valluvar brilliantly explains all three in the chapter titled 'Marundhu' (Medicine).

"Nōynāṭi nōymutal nāṭi atutaṇikkum

Vāynāṭi vāyppa ceyal." (Kural: 948). Valluvar states that to cure a patient, one must first ascertain 'What is the disease?', then investigate 'What is the cause of the disease?', next find the 'proper method of cure,' and finally 'execute the treatment systematically.' This is the fundamental diagnostic procedure of modern medicine.

Preventive Medicine

"Marunteṇa vēṇṭāvām yākkai-kku arunṭiyatu

Arṛatu pōrri uṇiṇ." (Kural: 942).

He asserts that medicine will not be necessary for the body if one eats only after ensuring that the previous meal has been fully digested and consumes food in moderation according to hunger. This is the essence of 'Food as Medicine' and 'Preventive Healthcare,' which is discussed globally today.

Psychology

Modern psychology addresses the functioning of the mind and the importance of mental health. Valluvar posits that mental well-being is the foundation for a person's advancement in society.

"Maṇanalam maṇṇuyirk-kākkam iṇa-nalam

Ellāp pukaḷum tarum." (Kural: 457).

Translation: He states that 'Mental Wellness' is the source of a person's prosperity and the basis for all other forms of well-being.

Furthermore, He Emphasizes the Necessity of Mind Control

"Ceṇṛaviṭattāl celaviṭa titoṭi'i

Naṇṛippāl uyppatu aṇivu." (Kural: 422). This Kural states that true wisdom is preventing the mind from following its whims, steering it away from evil, and guiding it towards goodness. This is the core principle of 'Self-Control' and 'Emotional Intelligence' discussed in modern psychology.

Agricultural Science

Soil Science and Hydrology are crucial for the success of agriculture. Valluvar clearly states this in the chapter 'Uzhavu' (Farming).

"Toṭippuḷuti kaḥsā uṇakkiṇ piṭṭeruvum

Vēṇṭātu cālap paṭum." (Kural: 1037). He states that if the land is tilled thoroughly until the soil is well-aerated and dry, the crop will flourish even without adding manure. This highlights the modern agricultural science (Agronomy) truth that deep plowing increases soil aeration, which promotes beneficial microorganisms and enhances soil fertility.

"Ēriṇum naṇṛāl eruviṭatal kaṭṭapiṇ

Niriṇum naṇṛatan kāppu." (Kural: 1038). Valluvar scientifically outlines the sequence of farming processes, stating that adding manure is better than just plowing, and protecting the crop (Pest Control & Crop Protection) after weeding is more important than mere watering.

Management Science

Modern Management Science emphasizes Planning, Resource Assessment, and Execution. Note how Valluvar describes the assessment required before starting any action:

“Vinaivali-yum taṇvaliyum mārrāṇ vali-yum

Tuṇai-vali-yum tūkkic ceyal.” (Kural: 471). He advises that before undertaking an action, one must compare and assess the four forces: the Task Strength, Own Strength, Opponent’s Strength, and Allies’ Strength. This is the fundamental philosophy of modern management, strikingly similar to a SWOT Analysis (Strengths, Weaknesses, Opportunities, Threats) centuries before its formalization.

Geographical and Astronomical Cues

Valluvar’s scientific outlook extends beyond life ethics to the universe. In the chapter ‘Uzhavu,’ when stressing the importance of agriculture, he uses a simile that contains a profound scientific insight:

“Culaṇṇrum ērppinnatu ulakam ataṇāl

Uḷantum uḷavē talai.” (Kural: 1031). Valluvar states “Though the world may roam around many trades (or revolve around), it ultimately stands behind the plow. Therefore, farming is the chief occupation.” However, the usage of the phrase “Culaṇṇrum... Ulagam” (The world that revolves) is closely observed by modern researchers. Valluvar used the idea of the “world revolving” very naturally in an era when most people believed the world was flat and stationary. The term ‘revolving’ (culaṇṇrum) can be interpreted as subtly indicating the Earth’s rotation on its axis and its revolution around the Sun. Only a spherical Earth can ‘revolve’ consistently. Stating that a flat object revolves would be inappropriate. Therefore, the presence of the concept of a ‘revolving world’ in the Tamil universal code centuries before Western scientists like Galileo and Copernicus established the concept of Earth’s motion stands as a testament to Valluvar’s far-sighted observation and the astronomical knowledge of the Tamils of his time.

Discussion

When approaching the Tirukkural, we must understand that it is not a book that directly lists scientific facts. Instead, it proposes the ‘Scientific Temper’ as the foundation of life. Valluvar’s approach is not based on Blind Faith; it is based on Observation, Inquiry, and Rationality.

“Epporuḷ yāryār vāyk-kēṭṭiṇum apporuḷ

Meypporuḷ kāṇpatu aṇivu.” (Kural: 423). Valluvar states that who said the message is not important; true knowledge lies in investigating and finding the truth of that message. This is the fundamental scientific process of ‘Critical Thinking’ and ‘Inquiry-Based Learning’. The concepts of medicine, psychology, and agriculture that Valluvar proposes are all a result of his empirical knowledge, gained through deep observation of nature and human beings during his time. He deeply believed in the Cause and Effect Relationship. We see this causal approach in “Noymutal Naadi” (find the cause of the disease) and “Atrathu Potri Unin” (eat only after the previous meal has been digested). Similarly, in the Kural “Suzhandrum Erppinathu Ulagam” (Kural 1031), researchers suggest that the single word ‘Suzhandrum’ (revolving) implicitly contains the modern scientific idea of a revolving sphere, contrary to the contemporary belief that the Earth was flat. While this may not be a direct astronomical statement by Valluvar, the fact that his deep observation and word choice align with later scientific discoveries is astonishing. Therefore, the Tirukkural is not a frozen ancient literature. It is a ‘living literature’ with the capacity to connect with the science of every era. Even in today’s age of Artificial Intelligence (AI) and Data Science, Valluvar’s ideas of ‘Ennenpa’ (Numbers/Data) and ‘Meipporuḷ Kaanbathu’ (Finding the Truth/Analysis) remain highly relevant. This scientific approach of the Kural is the best evidence for the conference theme: “Timeless Truths in Tirukkural for Our World.”

Conclusion

Through this study, it is clear that the Tirukkural is not merely a book of ethics but a profound scientific and rational document. It contains scientific concepts related to many fields, including medicine, psychology, agriculture, and management. Notably, through the phrase ‘Suzhandrum Ulagam’ (The world that revolves), he subtly hints at the astronomical concept of the Earth being a revolving sphere. Two thousand years ago, Thiruvalluvar taught the scientific methods of Observation, Analysis, Causality, and Finding the Truth through his couplets. Therefore, even as scientific theories change, the fundamental ‘Scientific Temper’ taught by the Tirukkural remains constant. This is what preserves the Tirukkural as a universal work and a timeless truth today.

Acknowledgement

The author, Nagalingam T., a Researcher and Writer in Tamilology, extends his profound gratitude to Dr. Arokiyaraj Selvaraj, President of the South Korea Tamil Research Association (SKTRA), for his invaluable guidance, encouragement, and scholarly support. The ideas and research presented in this article were significantly inspired and validated by the author’s participation in the pivotal ‘First International Thirukkural Conference’ (ITCSK 2025), successfully held at Sejong University, South Korea, on November 8, 2025.

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