

A Philosophical and Scientific Interpretation of Motion: A Comparative Study of Vaiśeṣika Darśana and Modern Physics

Sumedh N. Pathak¹

Abstract - This paper explores the concept of motion (कर्म) as defined in the Vaiśeṣika Darśana, particularly in Chapter 1, Śloka 17. The ancient Indian philosophical framework provides a foundational definition of motion through three core characteristics: it pertains to a single substance (एकद्रव्यम्), it is not a quality (अगुणम्), and it is an unaffected cause in both conjunction and disjunction (अनपेक्षकारणम् संयोगविभागेषु). These attributes are analyzed in relation to modern physics and systems theory to highlight conceptual continuity. The study underscores the sophistication of classical Indian thought and its surprising alignment with scientific paradigms, revealing how early philosophical traditions can offer deep insights into contemporary scientific understanding.

Keywords - Vaiśeṣika Darśana, Motion, Karma, Indian Philosophy, Systems Theory, Newtonian Mechanics, Quantum Physics, Substance, Causality.

INTRODUCTION

Indian philosophical schools such as the Vaiśeṣika system have contributed significantly to the metaphysical and scientific discourse on the nature of matter, motion, and causality. This paper delves into Śloka 17 from Chapter 1 of Vaiśeṣika Darśana, which defines the characteristics of motion. The ancient verse presents a nuanced view of motion that is surprisingly resonant with modern scientific concepts in physics and systems theory. By examining this shloka, we seek to bridge philosophical concepts with modern science, demonstrating that ancient wisdom remains intellectually relevant and conceptually insightful.

RESEARCH OBJECTIVES

- To examine the philosophical definition of motion as per Vaiśeṣika Darśana.
- To analyze the compatibility of ancient Indian concepts of motion with classical and modern physics.
- To explore how systems theory echoes the ancient metaphysical interpretation of motion.
- To underscore the relevance of Indian Knowledge Systems in contemporary scientific thought.

A COMPARATIVE STUDY OF VAIŚEṢIKA DARŚANA AND MODERN PHYSICS:

The central discussion revolves around the following Sanskrit verse from Vaiśeṣika Darśana:

Sanskrit Verses

एकद्रव्यं मगुणं संयोगं विभागेष्वन्
पेक्षकारणमिति कर्म लक्षणम् ॥ १७॥

(Vaiśeṣika Darśana, Chapter 1, Śloka 17)

Meaning: The characteristics of motion (karma) are:

एकद्रव्यम् - Pertaining to a single substance

अगुणम् - Not a quality

अनपेक्षकारणम् संयोगविभागेषु - An unaffected cause in conjunction and disjunction

i. Motion Associated with a Single Substance (एकद्रव्यम्)

In classical mechanics, motion is always associated with a specific body or object, reflecting the Vaiśeṣika assertion that motion cannot exist independently of a dravya (substance). In quantum theory, motion, too, is particle-specific, even when described in probabilistic terms.

ii. Motion is Not a Quality (अगुणम्)

Vaiśeṣika differentiates between qualities (guṇas) and motion (karma). Qualities are static properties like color or mass, whereas motion is dynamic. This mirrors modern physics, where motion (e.g., velocity or acceleration) is treated as a derivative quantity, not a core property.

iii. Motion as an Independent Cause (अनपेक्षकारणम् संयोगविभागेषु)

Motion causes objects to unite or separate, yet it itself remains unaltered, aligning with the modern idea of motion or energy transfer being a consistent initiating cause. In systems theory, this translates to motion as a trigger for system state changes, not as a state itself.

INTERPRETATION

Vaiśeṣika's characterization of motion demonstrates deep metaphysical foresight. The shloka anticipates the notion that motion is a derived, relational concept rooted in substance but not reducible to a property of it. Modern science echoes these themes, particularly in the understanding of motion in particle dynamics and systems interactions. The cause-effect independence of motion reinforces the philosophical claim

that causality precedes effect-a principle upheld in temporal models of classical mechanics and systems dynamics.

CONCLUSIONS

The study reveals that ancient Indian philosophical insights into motion bear striking conceptual resemblance to contemporary theories in physics and systems science. Vaiśeṣika's articulation of motion as single-substance-based, non-qualitative, and causally independent provides a sophisticated framework that enhances our philosophical and scientific understanding. This confluence of ancient metaphysics and modern science underscores the importance of integrating Indian Knowledge Systems into the broader epistemological discourse, particularly in scientific education and research.

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