

Physics and metaphysics in Newtonian and Indian thought: 'laws' of motion, 'law' of gravitation, and calculus

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Summary

I will critique both the claim¹ that Newtonian gravitation was anticipated in India, and the stock opposition² to it. My point is that such claims mix-up Indian thought with the superstitions of post-Crusade Christian metaphysics.

Key points include the following.

1. **Refutability vs. Metaphysics** – I will explain why I have renamed what is popularly known as Popper's³ criterion as the "Payasi-Poincaré-Popper (PPP) criterion", which distinguishes physics from metaphysics.
2. **Newton's Character** – Newton is usually presented as a colonial "god of science" to be worshipped, never critiqued. In actual fact he was a Christian fanatic,⁴ parts of whose secretive⁵ lifework on church and its Bible manipulation emerged only in the 1970's, leading to a revised biography.⁶ But his 7 volume *History of the Church* has been suppressed to this day. His wealth involved criminal human trafficking⁷ and disregard of dharma. He has been falsely credited with discovering the Indian calculus⁸ on the fanatic doctrine of Christian discovery,⁹ though there is ample evidence on the standard of criminal law that the calculus was stolen from India.¹⁰
3. **The Term "Laws"** – The terminology of Newton's "laws" of motion and "law" of gravitation relates to the Christian superstition of "laws of nature" due to Thomas Aquinas.¹¹ The religious origins of the belief in eternal "laws of nature" confirms it is metaphysics which is not scientific since irrefutable. This was a political construct to oppose Muslim beliefs,¹² and is also against all Indian positions whether those of Hindus or Buddhists or Jains.
4. **The Conceptual Errors** – The issue is not just terminology: Newton failed to define "equal intervals of time" hence the "laws" of motion and the "law" of gravitation, taken individually, are irrefutable,¹³ hence metaphysics. Only by combining the two laws and eliminating time do we get physics.
5. **Failure of Newtonian physics** – It was this internal conceptual error—failure to define time measurement—which led to the downfall of Newtonian physics, rather than experimental contradictions.¹⁴ Contrary to his mentor Barrow,¹⁵ Newton in his *Principia*¹⁶ refused to define equal intervals of time. Why? On the belief that the god (whose laws he thought had been revealed to him) knew the meaning of equal intervals of what Newton so nonsensically called "absolute, true, and mathematical time". (Newton believed he was a prophet to whom god's laws had been revealed, since he was born on Christmas day, on a wrong calendar(!), and had miraculously survived as a weak infant.)
6. **Relativity and Force** – To resolve the conflict of Newtonian physics with Maxwellian electrodynamics,¹⁷ Poincaré chose to preserve electrodynamics. He *postulated* the speed of light is a constant. This defined equal intervals of time, through a photon bouncing between parallel mirrors, but modified Newton's "laws" of motion. In accordance with point 4 above, the "law" of gravitation too had to change. General relativity has no concept of force,¹⁸ as in Indian tradition.
7. **Indian vs. Western Views on Motion** – Why is force needed? Hooke and later Newton assumed linear motion as natural and explained circular/elliptic planetary orbits as due to an inverse-square "law" force. Indian planetary models did not require gravitational force, since circular motion was considered natural based on observation of circular motions of a multitude of celestial bodies especially in the night sky. But there was no known theory of ballistics or rate of falling bodies in Indian tradition. Indians took it as natural that things fall towards the centre of the round earth,¹⁹ unlike the West where the Bible says the earth is flat. They hence argued that the earth did not need any support²⁰ such as Atlas to stop it from falling. The simple argument, never raised in the West,

was to ask if the earth is supported by Atlas, who supports Atlas? A more sophisticated argument was that objects fall “down”, meaning towards the centre of the earth. But since up and down are defined relative to the centre of the earth, the earth in space has no direction in which to fall.²¹

8. Indian Planetary Models. However, Nilakantha’s planetary model, stolen and renamed the Tychonic model, competed successfully in China,²² against the Keplerian heliocentric model until end 18th c. In fact, heliocentric planetary models are strictly *impossible* in Newtonian physics, as an examination of the solution of even the simplest two-body problem shows.²³ Explaining the Indian monsoon especially requires barycentric models²⁴ needed for tidal wind flows in the atmosphere e.g. to causally explain the correlation of monsoons with antipodal Pacific Ocean phenomena such as El Nino. The Newtonian planetary model anyway failed in the mid-19th century when it could not explain the observed anomalous perihelion advance of Mercury.

9. Theft of Calculus – Every problem of Newtonian physics is a problem of solving differential equations using the calculus. As I have pointed out over the last 25 years there is ample evidence²⁵ on the standard of criminal law (proof beyond reasonable doubt)²⁶ that calculus was stolen from India. Newton was aware of its Indian origins, but thought it was morally correct to steal from non-Christians on the dogma of Christian supremacy,²⁷ which dogma preceded the dogma of racist and Western supremacy,²⁸ Newton’s moral character is also evident from the following. Leibniz wrote to the Royal Society accusing Newton of stealing from him (both got calculus from the same source, the Anglican James Gregory who got it from Roman Catholics in Padua, who had got it from Jesuits in India). Newton, as President of the Royal Society, formed a committee to examine Leibniz’s charges against him. He headed the committee, wrote the report exonerating himself, got it published and then published an anonymous review of the report (correctly) critiquing Leibniz!²⁹

10. Doctrine of Flow and Fluxions – Like most knowledge-thieves, Newton failed to fully understand the knowledge he stole. He combined calculus with his naive belief that time itself flows, a belief ridiculed by the 8th c. SriHarsha.³⁰ Hence, Newton called calculus the doctrine of fluxions.³¹ This woolly doctrine of fluxions was widely critiqued³² and eventually replaced by the calculus based on Dedekind’s³³ “real” numbers and limits.

11. Religious Metaphysics in Western Mathematics – Newton believed that his god had made a “perfect cosmos” whose “laws” were hence written in the supposedly “perfect” language of mathematics. The belief that mathematics has “eternal truths”³⁴ is a superstition.³⁵ of Platonic and Neoplatonic religious beliefs, later taken over and modified to suit its politics by Crusading Christian theology. The church injected into Western mathematics its politically convenient Crusading trick of axiomatic proof (minus the empirical). Axiomatic proof is falsely³⁶ attributed to a non-existent³⁷ “Euclid” and declared “superior” without argument, like racists declared themselves “superior”. Dedekind’s replacement of fluxions by axiomatic “real” numbers is contrary to the non-Archimedean arithmetic used in the original Indian calculus of Aryabhata and Brahmagupta.³⁸ But that requires more time than a single lecture.

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