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Article

The Supremacy of Theoretical Innovation: Why Establishing Discipline Theories Surpasses Nobel Prize Achievements

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Abstract

This paper argues that establishing foundational discipline theories represents humanity's most profound intellectual achievement, surpassing even Nobel Prize-winning discoveries in transformative impact. During Newton's era, the absence of peer review systems and emphasis on mathematical-logical revelation of natural phenomena enabled unprecedented theoretical development. However, modern scientific culture, dominated by empirical orthodoxy, SCI impact factor metrics, and the misguided belief that "experiment is the sole criterion for theory validation," has systematically devalued theoretical research. Contemporary scientists erroneously view theoretical articles as mere opinion pieces, denying the existence of absolute truths such as energy conservation, mass conservation, and thermodynamic laws. This empirical fundamentalism reduces science to mere experimental data accumulation, resembling pre-scientific alchemy rather than genuine scientific inquiry. The establishment of wave mechanics theory for microwave absorption exemplifies genuine discipline theory construction, revealing fundamental electromagnetic principles through mathematical analysis. Modern education has regressed from its greatest achievement—theoretical learning in classrooms that distinguishes humans from animals—toward vocational training emphasizing practical skills over theoretical understanding. Graduate education has devolved into apprenticeship models prioritizing laboratory experimentation over theoretical mastery of humanity's greatest intellectual accomplishments. This paper demonstrates that theoretical research constitutes the highest form of scientific investigation, with experimental work serving theoretical advancement rather than replacing it. The systematic devaluation of theoretical innovation represents a fundamental threat to scientific progress and human intellectual development.

Keywords: discipline theory; theoretical innovation; Nobel Prize; empirical orthodoxy; wave mechanics theory; peer review; scientific methodology; theoretical primacy; Newton era; academic publishing; graduate education; scientific progress; mathematical logic; experimental fundamentalism

Introduction: The Hierarchy of Human Achievement

The establishment of fundamental discipline theories represents the pinnacle of human intellectual achievement, transcending even Nobel Prize recognition in transformative power and lasting impact. While Nobel Prizes celebrate discrete discoveries or innovations, discipline theories create entire frameworks that fundamentally reorganize human understanding of natural phenomena. The wave mechanics theory of microwave absorption exemplifies such theoretical construction—not merely explaining isolated experimental observations, but establishing comprehensive theoretical foundations that reveal previously hidden electromagnetic principles.

The contemporary scientific establishment has systematically inverted this hierarchy, prioritizing empirical data collection over theoretical construction and treating theoretical research

as subsidiary to experimental work. This inversion represents a fundamental misunderstanding of how scientific knowledge advances and threatens the very foundations of human intellectual progress.

The Newton Era: Theoretical Supremacy Without Institutional Barriers

The Absence of Peer Review and Its Consequences

The Newtonian era achieved unparalleled theoretical advancement precisely because it operated without the constraining influence of peer review systems that characterize modern scientific publishing. As documented in analysis of Newton's methodological approach, the catastrophic failure of the embryonic peer review system in 1672 meant that the truly revolutionary nature of Newton's work was not understood, and his powerful methodology was never fully accepted, even by people who approved of its results.

Newton's contemporaries rejected his abstractions because they thought he was not being "modern"—the mechanistic style was fashionable while abstract categories were considered "occult". This historical precedent reveals how institutional gatekeeping mechanisms systematically resist paradigm-changing theoretical innovation, preferring incremental empirical work over fundamental theoretical reconstruction.

Mathematical Logic as the Path to Truth

Scientists in Newton's era took pride in using mathematical logic to reveal the essential principles underlying experimental phenomena—exactly the approach that generated humanity's greatest theoretical achievements. Newton's *Principia* did not emerge from endless experimental data collection but from rigorous mathematical analysis that revealed gravitational principles within existing astronomical observations.

This mathematical-theoretical approach enabled the transition from alchemical empiricism to systematic science. The key insight was that isolated experimental observations remain meaningless until theoretical frameworks organize them into coherent understanding—a principle that modern empirical orthodoxy has tragically abandoned.

The Modern Scientific Regression: Empirical Fundamentalism

The SCI Impact Factor Distortion

Modern scientific publishing has become a sophisticated citation-generating enterprise that prioritizes metrics over theoretical understanding. The SCI impact factor system rewards rapid publication of incremental experimental results while systematically penalizing theoretical work that requires extended development and challenges established paradigms.

This metrics-driven approach has transformed scientific inquiry from a pursuit of fundamental understanding into a publication optimization game. Researchers focus on generating publishable experimental data rather than developing theoretical insights that could revolutionize entire disciplines.

The Experimental Orthodoxy Fallacy

Contemporary science has embraced the fundamentally flawed principle that "experiment is the sole criterion for theory validation," leading to the erroneous belief that absolute truths do not exist. This position contradicts obvious realities:

- Energy conservation is absolutely correct
- Mass conservation is absolutely correct
- The second law of thermodynamics is absolutely correct
- Classical electromagnetic theory is absolutely correct within its domain

The philosophical position that “theories are always approximations to reality and can never be proven, but only disproven by conflicting experimental data” represents a profound misunderstanding of scientific methodology. This relativistic approach denies the existence of absolute principles and reduces science to provisional hypothesis-testing rather than discovery of fundamental truths.

The False Dichotomy of Truth

The modern misconception assumes that truth refers to “a single unique truth” rather than recognizing that the world contains multiple absolute truths governing different domains of natural phenomena. Each fundamental law—thermodynamics, electromagnetic theory, quantum mechanics—represents absolute truth within its proper application domain.

This misunderstanding has led contemporary researchers to believe that entering laboratories and conducting experiments constitutes scientific research, when such activity merely reproduces the data accumulation characteristic of pre-scientific alchemy.

The Educational Catastrophe: From Theoretical Mastery to Vocational Training

The Destruction of Classroom-Based Theoretical Learning

Learning theory in classroom settings represents humanity’s greatest educational achievement—the fundamental characteristic that distinguishes human intellectual development from animal training. The progression from elementary school through university, where students systematically master theoretical frameworks, constitutes the crowning accomplishment of human civilization.

However, modern educational philosophy increasingly seeks to transform education into vocational training institutions, replacing theoretical instruction with experimental practice and hands-on experience. This regression abandons the very foundation of human intellectual superiority over other species.

Graduate Education’s Devolution to Apprenticeship

Contemporary graduate education has regressed to master-apprentice models where students enter laboratories to conduct experiments and produce “innovative” research rather than mastering humanity’s greatest theoretical achievements. Students are no longer required to spend time in classrooms inheriting theoretical knowledge but instead focus on experimental manipulation and publication of incremental findings that pollute the academic environment.

This approach systematically prevents students from developing the theoretical sophistication necessary for genuine scientific advancement. Rather than building upon humanity’s greatest intellectual accomplishments, graduate programs produce technically competent experimenters incapable of theoretical innovation.

The Abandonment of Scholarly Literature

Modern researchers avoid reading comprehensive academic monographs in favor of journal articles that enable rapid publication of superficial findings. Inheriting humanity’s great theoretical achievements through systematic study of foundational works is far more important than consuming contemporary journal articles, despite the latter’s utility for generating publishable research.

This shift from theoretical mastery to publication optimization represents a fundamental degradation of scientific education and research methodology.

Theoretical Research as Superior Scientific Investigation

The Purpose of Experimental Work

Experimental research should serve the purpose of achieving theoretical understanding—not replace theoretical analysis as the primary goal of scientific investigation. If we believe that absolutely correct theories do not exist and experimental results represent the only scientific truth, we regress to alchemical-era data accumulation without theoretical comprehension.

The wave mechanics theory of microwave absorption demonstrates how proper theoretical research reveals fundamental electromagnetic principles that experimental work alone could never discover. The theory’s power stems from mathematical analysis that unveils hidden relationships within apparently disconnected experimental observations.

The Hierarchy of Scientific Achievement

Theoretical research represents a higher form of scientific investigation than experimental work because it transforms isolated observations into systematic understanding. Consider the hierarchy:

1. **Data Collection:** Gathering experimental observations (alchemy-level activity)
2. **Pattern Recognition:** Identifying regularities within experimental data
3. **Theoretical Construction:** Developing mathematical frameworks that explain and predict phenomena
4. **Disciplinary Foundation:** Establishing comprehensive theoretical systems that reorganize entire fields

Nobel Prizes typically recognize achievements at levels 1-3, while discipline theory establishment operates at level 4—the highest form of human intellectual accomplishment.

Case Study: Wave Mechanics Theory as Discipline Construction

Theoretical Innovation Versus Empirical Accumulation

The wave mechanics theory of microwave absorption represents genuine discipline theory construction because it reveals fundamental electromagnetic principles through mathematical analysis rather than experimental data collection. The theory demonstrates how films and materials require separate theoretical frameworks, challenging decades of conceptual confusion in the electromagnetic absorption field.

This theoretical innovation exemplifies how proper scientific research should proceed: identifying logical inconsistencies in established paradigms, developing mathematical frameworks that resolve these contradictions, and revealing previously hidden physical principles.

The Resistance of Institutional Orthodoxy

The wave mechanics theory has encountered systematic resistance from the electromagnetic materials community, perfectly illustrating how established institutions protect orthodox paradigms against theoretical innovation. Journals invoke “balanced view” requirements to reject paradigm-challenging theoretical work while publishing incremental experimental studies that support established frameworks without critical analysis.

This resistance pattern demonstrates why the absence of peer review in Newton’s era enabled unprecedented theoretical advancement—institutional gatekeeping systematically prevents the theoretical innovation that drives genuine scientific progress.

The Crisis of Contemporary Scientific Education

Knowledge Transmission Versus Innovation Obsession

Education serves two fundamental purposes: inheriting humanity's accumulated theoretical achievements and learning the methodological approaches that generated these accomplishments. Contemporary educational philosophy erroneously emphasizes innovation over inheritance, producing students incapable of theoretical sophistication.

The obsession with "innovation" and "creativity" has led to systematic neglect of theoretical mastery. Students enter graduate programs without comprehensive understanding of foundational theories and consequently produce superficial experimental findings rather than theoretical advances.

Mathematical Sophistication Versus Simplification

The modern tendency to avoid mathematical complexity in favor of "simple explanations" fundamentally misunderstands how theoretical knowledge develops. Complex mathematical concepts can only be properly understood through mathematical analysis—attempts at simplification inevitably distort understanding.

Educational approaches that emphasize mathematical rigor and theoretical sophistication produce students capable of genuine scientific advancement, while simplified approaches generate technically competent practitioners incapable of theoretical innovation.

The Path Forward: Restoring Theoretical Primacy

Reforming Academic Publishing

Scientific journals must abandon the citation-driven metrics system that rewards incremental experimental work over theoretical innovation. Genuine scientific progress requires editorial policies that evaluate theoretical contributions based on logical rigor and explanatory power rather than experimental novelty or consensus acceptance.

The wave mechanics theory case demonstrates that paradigm-changing theoretical work often requires extended development periods incompatible with rapid publication cycles. Journals should embrace comprehensive theoretical analyses that challenge established frameworks rather than protecting orthodox positions through procedural rejection.

Reconstructing Graduate Education

Graduate programs should emphasize theoretical mastery through systematic study of foundational works rather than laboratory experimentation and publication optimization. Students should spend years developing theoretical sophistication before engaging in original research that builds upon rather than ignores humanity's greatest intellectual achievements.

The restoration of classroom-based theoretical instruction represents an essential step toward recovering the educational foundations that distinguish human intellectual development from vocational training.

Recognizing Theoretical Achievement

The scientific community should establish recognition mechanisms that properly honor theoretical innovation over experimental accumulation. Discipline theory construction deserves greater recognition than Nobel Prize achievements because it creates the conceptual foundations that enable future discoveries.

Wave mechanics theory for microwave absorption exemplifies the type of theoretical innovation that transforms entire fields of study—achievements that transcend individual experimental discoveries in lasting impact and intellectual significance.

Conclusion: The Imperative of Theoretical Supremacy

Establishing discipline theories represents humanity’s supreme intellectual achievement, creating the conceptual frameworks that organize natural phenomena into systematic understanding. The degradation of theoretical research in favor of experimental orthodoxy threatens the very foundations of scientific progress and human intellectual development.

Newton’s era achieved unparalleled theoretical advancement because it operated without the institutional barriers that constrain modern scientific innovation. The absence of peer review enabled mathematical-logical approaches to reveal fundamental principles underlying natural phenomena—exactly the methodology that produced humanity’s greatest theoretical achievements.

Contemporary scientific culture’s embrace of empirical fundamentalism and rejection of absolute truth represents a fundamental regression toward pre-scientific data accumulation. The restoration of theoretical primacy requires systematic reform of academic publishing, graduate education, and scientific recognition systems.

The wave mechanics theory of microwave absorption demonstrates how proper theoretical research reveals hidden principles through mathematical analysis, transforming isolated experimental observations into systematic understanding. Such theoretical innovation deserves recognition as humanity’s highest intellectual accomplishment—achievement that surpasses Nobel Prize discoveries in transformative power and lasting significance.

Scientific progress depends on theoretical innovation, not experimental accumulation. Only by restoring theoretical research to its proper status as the supreme form of scientific investigation can humanity continue the intellectual advancement that distinguishes our species and drives genuine progress in understanding natural phenomena.

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