Non-Mainstream Scientific Viewpoints in Microwave Absorption Research: Peer Review, Academic Integrity, and Cargo Cult Science

Yue Liu *

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Article

Non-Mainstream Scientific Viewpoints in Microwave Absorption Research: Peer Review, Academic Integrity, and Cargo Cult Science

Yue Liu

College of Chemistry and Chemical Engineering, Shenyang Normal University, Shenyang 110034, China; yueliusd@163.com

Abstract

This study critically examines peer review, academic bias, and scientific integrity in the field of microwave absorption research. The paper documents how mainstream publications routinely ignore well-known opposing theories, reject manuscripts without concrete evidence, and perpetuate practices that resemble cargo cult science. Drawing on journal rejection correspondence, ethical guideline, and insights from public intellectuals such as Eric Weinstein and Richard Feynman, the analysis highlights systemic flaws in current peer review processes. The argument is made that present peer review serves more to safeguard the reputation of mainstream scientists than the reputation of science itself. Real peer review, in contrast, begins only after a paper has been published—when the broader scientific community can engage with and challenge the work. Proposed reforms emphasize transparency, evidence-based rejection, and the restoration of scientific integrity. The study emphasizes William Penn's principle that "right is right, even if everyone is against it, and wrong is wrong, even if everyone is for it," particularly relevant when mistakes from majority, big figures, and prestigious journals cannot be criticized.

Keywords: academic bias; research ethics; publication bias; innovation resistance

1. Introduction

The fundamental principle of scientific discourse requires that published mistakes be open to criticism and correction. When journals systematically reject letters pointing out errors in published papers, they violate the basic tenets of peer review and scientific integrity. [1] Academic publishing should foster open debate about scientific theories. It should tolerate mistakes [2,3] and seriously engage with contrarian theories: when an opposite theory exists [4–7], mainstream scientists ought to study it and explain in their papers why they do not adopt it. [8] However, in practice, mainstream science often fails to engage seriously with opposing theories, [9,10] even when the papers of the alternative theory are widely known and well-documented. [11,12] Mainstream journals consistently reject manuscripts critical of established paradigms while simultaneously discouraging web-based dissemination of alternative viewpoints. [13] This is particularly evident in microwave absorption research, [14–19] where the majority of papers persist in endorsing the impedance-matching theory without acknowledging or refuting the newly emerged opposite wave-mechanics alternative, [20] despite its significant visibility and downloads. [21,22] Such practices that "mainstream journals do not publish views against mainstream theory" [23] transform science into an academic game, exemplifying what Richard Feynman termed cargo cult science. [24,25]

Manuscripts challenging mainstream theories are often rejected on the basis that "there is no absolute truth", "the evidence provided is not sufficient", or with the claim: "while we do not question the validity of your work, I regret to inform you that your submission did not receive a high enough rating in the screening process to be considered further". Such claims are unethical. [26,27] The subject of overturning accepted theory should be classified as novel and important, and such

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manuscripts can only be rejected by providing contradict evidence to the arguments of the manuscripts. If reviewers cannot provide academic evidence against the arguments of the manuscripts, they should not reject them in the name of "insufficient to deny accepted theories", but instead allow for the accumulation of evidence contrary to the theories concerned. If a theory is correct, it should withstand scrutiny from every perspective. There are no trivial matters in science since a single contradiction may undermine the entire framework.

Journals frequently claim to prioritize experimental results over theoretical conclusions, reflecting a broader trend where only experiments are considered "real science." However, experiments alone cannot negate conclusions drawn from logically sound theory. [28] Historically, the era of alchemy was characterized by experimentation without scientific rigor, while the achievements of Newton's time stemmed from valuing theoretical research grounded in mathematical logic. The current lack of groundbreaking theoretical advances may be due to an overemphasis on experiments at the expense of theoretical inquiry. [29,30]

William Penn's foundational principle that "right is right, even if everyone is against it, and wrong is wrong, even if everyone is for it" [31–35] becomes critically important when examining how scientific institutions protect established paradigms. The systematic protection of mistakes from majority opinions, big figures, and voice-leading journals represents a fundamental corruption of scientific discourse. Documented evidence shows that manuscripts with mathematically rigorous rejected from many journals were finally published, demonstrating clear editorial bias against non-mainstream theories. This practice creates a closed system where correctness becomes secondary to institutional reputation and theoretical conformity.

2. Literature Review

2.1. Ethical Standards in Peer Review

According to Cabbolet, Marcoen J. T. F., rejecting a manuscript critical of mainstream theory without providing concrete evidence invalidating its conclusions is unethical. [26] Reviews must cite specific evidence contradicting the submission rather than appeal to consensus or journal focus.

2.2. Cargo Cult Science and Scientific Integrity

Richard Feynman's "cargo cult science" concept [24,25] highlights the missing element of scientific integrity—leaning over backwards to present potential errors and contradictory evidence. Feynman urges scientists not to fool themselves or the layman, reporting all facts that might invalidate their theories.

2.3. Historical Patterns of Ignoring Valid Critiques

Correct conclusion was often defeated by wrong theory. Feynman's recounting of Young's rat-maze experiment [24] illustrates how correct methods and criteria can be overlooked—a hallmark of cargo cult science. Correct results are often ignored: subsequent papers on rat behavior favored for incorrect conclusions and did not reference Young's rigorous controls, despite their fundamental importance.

The case of Lu Jiaxi (卢嘉锡) [23] provides a compelling historical example of how mainstream journals reject mathematically sound challenges to established theories. Lu's father submitted a paper challenging Einstein's relativity to Physical Review. The journal editor took the submission seriously, engaging in "five rounds of questioning" where every challenge was "satisfactorily answered" by Lu's father. Ultimately, the chief editor admitted the paper was "flawless" but rejected it anyway, stating that "considering this is a mainstream physics journal, it is not suitable for publication" and suggesting submission to other journals. This case demonstrates the explicit admission by mainstream journals that they will not publish views against mainstream theories, regardless of their scientific merit.

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The documented case [1] shows how letters attempting to correct published papers face systematic rejection without substantive scientific critique, effectively preventing the correction of errors in the published literature. This practice violates the fundamental principle that "if published mistakes are not allowed to be criticized, then you cannot call it a peer reviewed journal".

Mainstream scientists not only reject anti-mainstream papers from journals but actively discourage their dissemination through web-based platforms. The documented response "you can choose other journals, personally I think the way of crying injustice on the internet is not advisable" [36] reveals the systematic attempt to suppress alternative viewpoints from reaching broader audiences [37]. This demonstrates that mainstream scientists do not like to spread views against mainstream theory, whether through traditional publishing or modern digital platforms.

William Penn's assertion that truth exists independently of popular consensus provides a crucial framework for evaluating scientific integrity. Penn's principle, rooted in Quaker theology and the concept of Inner Light, emphasizes that objective truth (Capital R Right) remains valid regardless of social consensus. [38] This principle becomes particularly relevant in scientific contexts where "mistakes from majority, big figures, and voice-leading journals cannot be criticized" without facing systematic institutional resistance. Analysis of Physical Review B editorial policies reveals systematic patterns of rejection without substantive scientific critique. [1] The journal admits that "about 1/3rd of all submissions to PRB are rejected without such external review" with "considerable deliberation from at least two editors". [39] However, documented cases show that this editorial discretion often operates to protect mainstream paradigms rather than evaluate scientific merit. [13,36]

Papers against mainstream theories were usually published with so many rejections when the authors feeled nowhere to submit them. The 2022 case of four manuscripts by Liu, Liu, and Drew demonstrates this bias in concrete terms. Physical Review B Managing Editor Anthony M. Begley rejected all four papers, stating: "we do not think that your papers present a significant enough advance in condensed matter or materials physics for our journal. Based on our experience, it is highly likely that the referees will share our concern". Critically, these same papers were subsequently accepted and published in peer-reviewed journals including Materials Chemistry and Physics [19,40,41] and Surfaces and Interfaces [18,42], proving their scientific validity.

A 2023 rejection letter from Physical Review B Associate Editor Paul C. Snijders reveals an even more troubling stance: "We make no judgment on the correctness of the work, only on its suitability according to our other criteria... Mere correctness is no longer sufficient for publication". The paper was finally published in Optics and Laser Technology. [14] When journals openly admit they will reject correct work based on non-scientific criteria, they cease to function as scientific institutions.

Research indicates that "mistakes happen in research papers. But corrections often don't" [43] due to "a culture of fear around corrections and retractions". The paper, [44] published in Industrial & Engineering Chemistry Research pointing out common mistakes published, were rejected by almost all the journals published papers with these errors. The documented pattern shows that journals systematically reject letters pointing out errors in published papers, effectively immunizing established theories from criticism regardless of their accuracy.

2.4. The Problem with Peer Review

Eric Weinstein and others [45–47] have argued that present peer review is not truly about advancing science but about protecting the reputations of established scientists. As Weinstein states, [45] "Peer review is a cancer from outer space. It came from the biomedical community. It invaded science." He further argues that "peer review is not peer review. It sounds like peer review. It is peer-injunction. It is the ability for your peers to keep the world from learning about your work".

Weinstein's experience with experimental gerontology illustrates how reviewers with personal or professional conflicts can block publication, even when their critiques lack substance. The process often fails to distinguish between high-quality and low-quality critiques, and editors may override reviewers only when the flaws in the review are blatant.

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3. Case Studies: Wave-Mechanics Theory vs. Impedance-Matching Theory

3.1. Visibility of the Opposing Theory

It is demonstrated that the community awareness of the wave mechanics theory counter to the current microwave absorption theories is substantial, [21,22] for example, the Physica Scripta paper "A theoretical investigation of the quarter-wavelength model—part 2: verification and extension" [15] has been downloaded 355 times, yet mainstream articles still omit or dismiss it without explanation.

3.2. Rejection Without Substantive Critique

Analysis of journal rejection correspondences reveals systematic patterns in how non-mainstream theories are evaluated. [26] A typical rejection letter from ACS Applied Electronic Materials illustrates these patterns:

"The manuscript does not align with the journal's emphasis on new, clearly validated insights in the field of applied electronic materials, particularly those supported by experimental or computational demonstration."

Journal rejection correspondences routinely state that a manuscript "does not align with journal focus" or lacks "clearly validated insights," without citing any specific experimental data that refute the new framework from the manuscript. This violates the ethical standard requiring concrete evidence to justify rejection.

An unspoken rule in academic publishing is that "if you don't have anything nice to say, don't say anything at all" [48]. Many journals nowadays do not allow people criticizing mistakes they have published, such as "Unfortunately, this paper is formatted as a LETTER and ACS AMI no longer publishes letters". This culture stifles critical discourse and discourages the publication of dissenting views, further entrenching mainstream paradigms.

The four manuscripts rejected by Physical Review B in 2022 provide concrete evidence of editorial bias:

- "Reevaluation of the mechanism of microwave absorption in films. I. Energy conservation"
- "Reevaluation of the mechanism of microwave absorption in films. II. Mechanism"
- "Reevaluation of the mechanism of microwave absorption in films. III. Unexpected results if film were material"
- "Reevaluation of the mechanism of microwave absorption in films. IV. Inverse relationship"

These papers were rejected without peer review based solely on editorial assessment that they did not present "significant enough advance." However, their subsequent publication in established journals [18,19,40–42] can easily testify their scientific validity and contradicts the editorial assessment.

The 2023 rejection [14] explicitly stating "mere correctness is no longer sufficient for publication" reveals how journals prioritize perceived importance over scientific accuracy.This creates a system where mathematically sound challenges to established theories face systematic rejection, not because they are incorrect, but because they threaten established paradigms.

These cases directly violate William Penn's principle by allowing wrong theories to persist through institutional protection while rejecting right theories based on non-scientific criteria. When "mistakes from majority, big figures, and voice-leading journals cannot be criticized," the scientific enterprise transforms from truth-seeking to authority protection.

3.3. Cargo Cult Science Practices

By ignoring well-downloaded [21,22] counter-theories and refusing detailed critique, [44] mainstream practitioners exhibit cargo cult traits: [24,25] following the form of scientific discourse while omitting essential integrity [49]—reporting only data that support established theories and neglecting contradictory evidence.

 doi:10.20944/preprints202507.0015.v2

3.4. Scientific Integrity Insights from the Rejection of a Paper by Chemical Engineering Journal

The successful publication of "Reflection Loss is a Parameter for Film, not Material" in Non-Metallic Material Science [50] following its rejection by Chemical Engineering Journal provides compelling evidence that innovative theoretical work can find appropriate venues despite initial editorial resistance. This case exemplifies how the academic culture of silence - where "if you don't have anything nice to say, don't say anything at all" serves as an unsaid rule in publication - systematically protects established paradigms from necessary criticism [48]. [For more information, please see Supplementary Material 1]

As Simine Vazire argued in her influential Nature commentary "A toast to the error detectors," we must value those who ensure that science is self-correcting rather than maintaining systems that discourage error detection and criticism [48]. The systematic avoidance of criticizing established figures, journals, and misconducts committed by the majority creates an environment where scientific progress stagnates and wrong theories persist unchallenged.

3.4.1. The Academic Silence Culture

Academic publishing operates under an implicit culture where criticism of established theories, figures, or institutions is systematically discouraged. This "if you don't have anything nice to say, don't say anything at all" mentality creates what researchers describe as a protective barrier around mainstream science [48]. As documented in the literature, "people avoid criticizing established figures, journals, and misconducts committed by majority" because such criticism threatens career advancement and professional relationships. This practice led to the lack of documentation of information such as bad review reports, as noted in scholarly analyses, " and it is not good to make improvement" because it prevents the scientific community from learning from mistakes and correcting systemic problems [51]. This culture of silence directly contradicts Feynman's principles of scientific integrity and creates conditions where cargo cult science can flourish unchallenged.

3.4.2. The Importance of Error Detection

Simine Vazire's call for "A toast to the error detectors" emphasizes that those who identify and correct scientific errors should be celebrated rather than marginalized [48]. Research indicates that "theoretical arguments suggest that many published findings are false, and empirical reports across fields show that many published findings" fail to replicate [44,52]. However, the current academic culture systematically discourages the very error detection that would improve scientific reliability.

Studies show that "researchers urge newsrooms to present scientific errors and academic journal retractions as part of science's self-correction process" rather than evidence of scientific failure [53]. Yet, within academia itself, pointing out errors often results in professional marginalization rather than recognition for improving scientific accuracy.

3.4.3. Publication Success Despite Initial Rejection

The Non-Metallic Material Science publication demonstrates that scientifically sound work can overcome initial editorial bias. The paper by Liu, Yin, Drew, and Liu (2023) successfully presented the argument that "reflection loss (*RL*) is a parameter for film, not material, as it is a scattering parameter for metal-backed film, not for material" [50]. This publication validates the theoretical framework that Chemical Engineering Journal had rejected, proving that editorial decisions often reflect bias rather than scientific merit.

The successful publication includes detailed analysis showing that "using *RL* to characterize material is inappropriate and the conclusions obtained are misleading" and demonstrates how "the wave cancellation method for microwave absorption film" provides better theoretical understanding. [50] This case proves that innovative theories can find appropriate publication venues when editors are willing to engage with challenging ideas rather than deflect them.

 doi:10.20944/preprints202507.0015.v2

3.5. Scientific Integrity Insights from the Rejection of a Paper by the ACS Applied Electronic Materials

3.5.1. Editorial Screening as Gatekeeping

The rejection of a paper by ACS Applied Electronic Materials provides additional evidence of how journals use "preliminary screening" to exclude challenging theoretical work. Deputy Editor Prof. Hyun Jae Kim stated: "Papers that do not provide clear evidence for a significant new insight into the area of applied electronic materials are being referred elsewhere for consideration"[Supplementary Material 2].

This rejection demonstrates the systematic pattern where journals dismiss theoretical challenges without substantive scientific evaluation. The editorial response reveals how "significant new insight" becomes code for conformity with established paradigms rather than mathematical or experimental validity.

3.5.2. Author Response Challenging Editorial Bias

The author's response to the ACS rejection reveals sophisticated understanding of how editorial bias operates: "Your comment is apparently based on the number of papers published on the subject rather than provided any particular published data or concrete computation based on published data to prove that our conclusion is wrong" [Supplementary Material 2].

The author's challenge that "we have already proved that our conclusion is valid for any published data and is valid for any computation based on any published data, even those data were used to support those theories we have claimed wrong", demonstrates the mathematical rigor underlying the theoretical challenge [Supplementary Material 2]. The editorial dismissal of such mathematically grounded arguments exemplifies how journals protect established theories through institutional authority rather than scientific debate.

3.5.3. The Cargo Cult Science Connection

The author's reference to Feynman's cargo cult science in the correspondence directly connects the editorial practices to broader problems in scientific integrity. The citation of Feynman's principle that researchers who "provide data support those wrong theories are come from Cargo Cult Science" highlights how established research "follow all the apparent precepts and forms of scientific investigation, but they're missing something essential" [Supplementary Material 2].

This connection demonstrates how peer review processes can perpetuate cargo cult science by rejecting work that challenges fundamental assumptions, regardless of the mathematical validity of the challenges.

4. Discussion

4.1. Present Peer Review vs. Real Peer Review

Present peer review functions as a gatekeeping mechanism, often safeguarding the reputation of mainstream scientists rather than the reputation of science itself. [46,47] As Weinstein points out, "Peer review is not peer review. It sounds like peer review. It is peer-injunction. It is the ability for your peers to keep the world from learning about your work". [45]

Real peer review, in contrast, begins only after a paper has been published—when the broader scientific community can engage with and challenge the work. This distinction is crucial for understanding how science progresses and why innovative ideas are often suppressed. [4]

The evidence demonstrates that current peer review processes serve more to protect the reputations of established scientists than to advance scientific knowledge. Reform requires not only changes to editorial policies but a fundamental recommitment to the principle that scientific truth must be evaluated independently of consensus, authority, or institutional preference.

4.1.1. A Toxic Ranking Culture

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The Web of Science's SCI index and similar metrics were intended as neutral bibliographic tools, yet they have morphed into a global league table that assigns prestige points to journals. Scientists—whose promotions, funding and even visas can hinge on those scores—soon discover that "where" often outweighs "what." Hyper-competition for slots in the highest quartile outlets transforms curiosity-driven inquiry into a game of score-maximization [54,55].

4.1.2. Judgement Outsourced to Journal Rank.

Because career committees seldom read every paper, they treat journal rank as a shorthand for quality. The result is intellectual laziness: scientists stop using their own brains to judge a study's merit and instead judge the journal [56,57]. When an article appears in a Q1 title, it is automatically "excellent," even if the work is trivial or later retracted; conversely, rigorous analyses in lesser-known venues are discounted sight-unseen.

4.1.3. From Marketplace of Ideas to Trophy Cabinet

Ideally, journals should act as platforms where competing theories meet head-on. In practice they now function as achievement-evaluation bureaus, feeding institutional dashboards with impact-factor statistics. A "trash" paper in a top journal can be hailed as a milestone, while a landmark paper in an unranked outlet is ignored [55].

4.1.4. Pressure Smothers Creativity—Freedom Breeds Breakthroughs

Donald W. Braben's survey [30] of Nobel-class ideas shows that genuine revolutions erupt in laboratories where investigators enjoy maximum intellectual freedom and minimal managerial pressure; coercive metrics rarely birth paradigm shifts.

4.1.5. Error-Propagation in Reward-Locked Communities

As erroneous papers multiply and citation cascades swell, entire subfields become invested in the status quo. A 2018 Science & Technology Daily exposé on the collapse of a celebrated stem-cell programme captured the mechanism:

> "随着发表的错误论文越来越多，跟风研究的越来越多，大家都成了既得利益者，就默许了这些错误的观点继续流传下去。" [58]

Translation: As more flawed papers are published and more researchers join the bandwagon, everyone turns into a stakeholder and tacitly allows wrong ideas to keep spreading. The psychology is clear: admitting error imperils grant streams, reputations and journal metrics, so silence prevails.

4.2. Implications for Scientific Progress

When journals demand alignment with prevailing paradigms instead of rigorous mathematical or theoretical validation, innovative theories are suppressed. [28] Genuine progress, as Feynman stressed, depends on utter honesty and reporting all information that could challenge one's conclusions. [24]

Journals should serve as platforms for confronting different ideas. They are not achievements evaluation organizations. The value of a journal lies in fostering novelty and stimulating discussion among specialists. Even views that are ultimately proven wrong can have academic value, just as failed experimental results are published for their insights. Journals are not textbooks, and the academic journal readers are experts rather than layman. Correctness of journal articles should be judged by the readers rather by the editors and reviewers. Novelty and inspiring ideas for journal articles are the most important issues. [59]

Science does not belong exclusively to mainstream scientists; [37] it is often the minority that pushes science forward. [60,61] The scientific community must remain open to dissenting voices and

 doi:10.20944/preprints202507.0015.v2

value both theoretical and experimental research. As the following quote suggests: "They should work together not just to forge a better science, but to counter true pseudoscience: homeopaths and psychics, just to mention a couple of obvious examples, keep making tons of money by fooling people, and damaging their physical and mental health. Those are worthy targets of critical analysis and discourse, and it is the moral responsibility of a public intellectual or academic—be they a scientist or a philosopher—to do their best to improve as much as possible the very same society that affords them the luxury of discussing esoteric points of epistemology or fundamental physics". [29]

A hallmark of scientific progress is the ability to change one's mind in light of new evidence. Science improves precisely when individuals and the community are willing to admit they were wrong. This openness to correction is essential for the self-correcting nature of science. [4–7]

4.3. The Role of Scientific Integrity

Feynman's principle of not fooling the layman is central to scientific integrity. As he stated, "I would like to add something that's not essential to the science, but something I kind of believe, which is that you should not fool the layman when you're talking as a scientist. ... I'm talking about a specific, extra type of integrity that is not lying, but bending over backwards to show how you're maybe wrong, that you ought to do when acting as a scientist. And this is our responsibility as scientists, certainly to other scientists, and I think to laymen." [24]

The documented cases [1,44] provide concrete evidence of how journals systematically reject letters pointing out errors in published papers. Despite clear documentation of mistakes in published research, journals reject correction letters without providing substantive scientific reasons for the rejection. This pattern suggests that journals prioritize protecting published authors and maintaining the appearance of infallibility over scientific accuracy.

The Lu Jiaxi case [23] demonstrates that this pattern extends across time and institutions. Physical Review's explicit admission that they reject flawless papers simply because they challenge mainstream theory reveals the systematic nature of this bias. When journals openly admit to rejecting scientifically sound papers based on their theoretical implications rather than their accuracy, they abandon any pretense of objective peer review.

If published mistakes cannot be criticized through journal corrections, the entire peer review system loses credibility. A journal that systematically rejects letters pointing out errors in published papers cannot legitimately claim to be "peer reviewed". The documented cases show that mainstream journals operate as guardians of established theory rather than facilitators of scientific progress. The explicit statement that "mainstream journals do not publish views against mainstream theory" represents a fundamental corruption of scientific publishing. When journals admit to rejecting papers based on their theoretical implications rather than their scientific merit, they transform from instruments of knowledge advancement into mechanisms of intellectual suppression. The active discouragement of web-based dissemination [36] of anti-mainstream theories reveals the comprehensive nature of this suppression. Mainstream scientists not only control traditional publishing channels but actively discourage alternative means of scientific communication. This demonstrates that the resistance to non-mainstream theories extends beyond peer review to encompass all forms of scientific discourse.

When journals systematically reject corrections to published errors, they create an environment where mistakes become permanent fixtures in the scientific literature. This undermines the self-correcting nature of science and creates a false impression of theoretical consistency. The documented patterns suggest that maintaining the appearance of mainstream theoretical coherence takes precedence over scientific accuracy.

William Penn's principle that "right is right, even if everyone is against it, and wrong is wrong, even if everyone is for it" provides essential guidance for scientific integrity. When institutions systematically protect "mistakes from majority, big figures, and voice-leading journals" while rejecting correct theories based on non-scientific criteria, they violate the fundamental principles of scientific inquiry. As the documented correspondence reveals, when journals explicitly state they will

 doi:10.20944/preprints202507.0015.v2

reject correct work based on perceived significance rather than accuracy, they cease to function as scientific institutions and become mechanisms for protecting established authority. Only by returning to Penn's principle - that truth exists independently of popular opinion - can the scientific enterprise restore its integrity and fulfill its mission of advancing human knowledge.

4.4. Correct Theories Are Often Rejected

Feynman's example of Mr. Young's rat-maze experiment demonstrates how correct theories and methods can be ignored by the scientific community. [24] "Not paying attention to experiments like that is a characteristic of cargo cult science."

Physical Review B and other journals' explicit admission that "mere correctness is no longer sufficient" represents a fundamental corruption of scientific standards. The documented pattern shows that established theories receive protection from criticism regardless of their accuracy, while challenges face rejection regardless of their validity. When correctness becomes secondary to editorial preference, journals abandon their scientific mission.

The systematic rejection of corrections and challenges to established theories serves to protect the reputations of mainstream scientists rather than advance scientific knowledge. As documented in the literature, "the scientific establishment is turning 'science' into a dogmatic tool of oppression" where "scientists whose ideas run against the grain of powerful scientific and government bureaucracies" face systematic suppression. [62]

William Penn's principle [31] provides essential grounding for scientific integrity: truth must be evaluated independently of consensus, authority, or institutional power. The documented cases demonstrate what happens when this principle is abandoned - scientifically sound work faces rejection while errors receive protection through institutional momentum.

The documented cases of rejection of mathematically sound manuscripts that were subsequently published elsewhere provide concrete evidence of systematic bias in scientific publishing. The explicit editorial statement that "mere correctness is no longer sufficient" represents a fundamental abandonment of scientific principles in favor of protecting established paradigms.

4.5. The Error Detection Suppression Mechanism

4.5.1. Systematic Discouragement of Criticism

The academic culture systematically discourages criticism through multiple mechanisms. As documented in publishing research, "current incentives in academic publishing can hinder scientific progress" by creating pressure to avoid challenging established paradigms. [63] The "publish or perish" culture particularly affects error detection because pointing out mistakes in established work can be career-threatening.

Research shows that "negative coverage of science without adequate context can erode public trust in scientists" which creates institutional pressure to suppress criticism even when it would improve scientific accuracy [53]. This creates a perverse incentive structure where protecting the appearance of scientific reliability takes precedence over actual scientific reliability.

4.5.2. The "Nice to Say Nothing" Rule

The implicit rule that "if you don't have anything nice to say, don't say anything at all" operates throughout academic publishing. This cultural norm protects established figures and theories from necessary criticism while marginalizing those who attempt to correct errors. Studies indicate that this silence culture is particularly damaging because it prevents the self-correction that is supposed to be science's greatest strength.

The lack of documentation of problematic practices, as noted in error detection research, creates a system where the same mistakes are repeated because the scientific community cannot learn from past failures [51]. This documentation gap perpetuates cargo cult science by preventing critical evaluation of established practices.

 doi:10.20944/preprints202507.0015.v2

4.5.3. Professional Consequences of Error Detection

Researchers who identify errors in established work face systematic professional consequences. The literature documents how "researchers must collectively create ways to take responsibility" for improving scientific practices, yet individual researchers who attempt such responsibility often face career damage [48]. This creates a collective action problem where everyone benefits from error detection but no individual wants to bear the personal costs of providing it.

4.6. Implications for Scientific Progress

4.6.1. Science Advances by the Few, Not the Many

History shows that transformational advances are typically sparked by minorities—single laboratories, lone theoreticians or the occasional editor who dares to print a dissenting view. Even after a mainstream theory is proven faulty, most senior voices cling to it; progress depends on those outliers who persist in "doing real science." Their papers, though statistically rare, propel the frontier [61].

4.6.2. Minority Gatekeepers Matter.

In every controversial episode documented here, at least one editor or reviewer took the risk of allowing the heterodox manuscript into print. Without such minority gatekeepers, the literature would record no trace of the breakthrough at all [37].

4.6.3. History as the Ultimate Referee

Morris Kline reminded scholars that contemporary enthusiasm is a poor predictor of lasting value:

"The history of mathematics teaches us that many subjects which aroused tremendous enthusiasm and engaged the attention of the best mathematicians ultimately faded into oblivion ... History makes its own and sounder evaluations." [64]

Expanded lesson: What is trumpeted today often proves to be orchestrated mediocrity, whereas work suppressed by influential contemporaries frequently emerges as genuine gold. Time, not the SCI index, will decide which microwave-absorption theory endures.

4.7. The Non-Metallic Material Science Success Model

4.7.1. Editorial Openness to Challenging Ideas

Non-Metallic Material Science's willingness to publish the reflection loss paper demonstrates how journals can support scientific progress by engaging with challenging theoretical work rather than deflecting it [50]. The journal's decision validates the scientific merit of work that other venues had rejected based on paradigm alignment rather than mathematical validity.

4.7.2. Theoretical Innovation Recognition

The successful publication includes sophisticated analysis showing that "the absorption mechanism for the device and material must be differentiated" and that "parameters such as the imaginary part of the permittivity of the material should be used rather than *RL*/dB to characterize dielectric loss material" [50]. This demonstrates how journals willing to engage with theoretical innovation can advance scientific understanding.

4.7.3. Impact Beyond Single Publication

The Non-Metallic Material Science publication has broader implications for how journals can support theoretical innovation. By providing a venue for mathematically rigorous challenges to

 doi:10.20944/preprints202507.0015.v2

established theories, the journal contributes to the self-correction that should characterize healthy science.

5. Reform Recommendations

There much work needs to be done. The documented evidence demands fundamental reforms:

A. Mandatory Engagement: Authors must cite and discuss newly emerged opposing theories, explaining specific reasons for non-adoption.

B. Evidence-Based Rejection: Evaluation based on scientific merit rather than paradigm alignment. Reviewers must identify precise evidence or analytical flaws in manuscripts against accepted theories, per Journal of Academic Ethics guidelines. [26]

C. Transparent Correspondence: Clear criteria that prioritize truth over institutional preference. Rejection letters must be accompanied by specific scientific justification rather than editorial discretion. [26] Journals must commit to theoretical neutrality, evaluating papers based on mathematical rigor and experimental validation rather than alignment with mainstream paradigms. The practice of rejecting "flawless" papers because they challenge established theories must be eliminated.

D. Post-Publication Review: Encourage open, ongoing evaluation rather than finality at publication. The scientific community must embrace rather than discourage web-based dissemination of alternative theories. The practice of advising against "crying injustice on the internet" [36] represents an attempt to control scientific discourse beyond traditional publishing channels.

E. Integrity Training: Incorporate Feynman's principle of leaning over backwards into researcher education. Journals must prioritize mathematical and experimental accuracy over perceived importance. Systematic processes for addressing published mistakes without editorial discretion to protect established theories.

F. Distinguish Present and Real Peer Review: Recognize that real peer review begins after publication, when the broader scientific community can engage with and challenge the work.

G. Celebrating Error Detectors: Following Vazire's call [48] for "A toast to the error detectors," academic institutions must fundamentally change how they value criticism and error correction. Rather than treating error detection as potentially damaging to scientific reputation, institutions should recognize it as essential to scientific progress

This requires systematic changes to promotion and tenure criteria to explicitly reward researchers who identify and correct errors in established work. The current system where such work is marginalized must be replaced with recognition that error detection is as valuable as original research.

H. Breaking the Silence Culture: Academic publishing must abandon the implicit "if you don't have anything nice to say, don't say anything at all" rule in favor of encouraging rigorous criticism of established work. This requires cultural change at multiple levels, from individual researcher behavior to institutional policies.

Journals should implement explicit policies protecting and encouraging manuscripts that identify errors in published work, rather than the current practice of deflecting such submissions to avoid controversy.

I. Documentation and Learning from Criticism: The scientific community must systematically document cases where criticism of established work faces resistance, as such documentation "is not good to make improvement" when it remains hidden. Creating public databases of editorial bias cases, reviewer misconduct, and institutional resistance to error correction would help the community learn from these problems.

6. Conclusions

 doi:10.20944/preprints202507.0015.v2

The documented cases of irresponsible rejection of correction letters and the admission of rejecting "flawless" anti-mainstream papers reveal systematic corruption in scientific publishing. When journals cannot be criticized for publishing mistakes, they cease to function as legitimate peer review venues. The explicit policy that "mainstream journals do not publish views against mainstream theory" represents a fundamental abandonment of scientific principles. The additional suppression of web-based dissemination shows that mainstream scientists seek to control all forms of scientific communication, not just traditional publishing.

The omission of widely known opposing theories, rejection without concrete evidence, and disregard for Feynman's integrity principles constitute cargo cult science in microwave absorption research. Present peer review often serves to protect the reputations of mainstream scientists rather than advance scientific knowledge. These practices transform science from a truth-seeking enterprise into an academic protection system where established theories are shielded from criticism regardless of their scientific merit. Reform requires not only changes to journal policies but a fundamental recommitment to the principle that scientific theories must be open to challenge and correction through all available means of communication.

Real peer review—where the scientific community at large critically engages with published work—begins only after publication. Upholding ethical standards and fostering honest, comprehensive critique are essential to reviving true scientific innovation and ensuring that mathematical rigor and empirical evidence—not conformity—guide acceptance of new theories. Science thrives on diversity of thought, the courage to admit error, and the continuous challenge of established ideas.

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