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Open In-House Crowd Review

Decoupling Quality Control from Commercial Publishing Infrastructure

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Dedicated to all truth seekers
who have been wrongfully silenced.

To all those whose legitimate work entered no record.

TL;DR

Scientific quality assurance is currently organised around a commercial infrastructure that was never designed for epistemic purposes. Peer review as practiced today emerged as an administrative response to rising submission volumes in the 1970s, built on an older genealogy of censorship and licensing that predates any concern with epistemic rigour. The result is a system in which the most consequential gatekeeping decisions (desk rejection, reviewer selection, acceptance thresholds) are made by or in the interest of commercial publishers, insulated from accountability and systematically biased toward paradigm-conforming, high-visibility work. Reform efforts have addressed this system's symptoms without questioning its structural logic: open access initiatives redistribute access costs without relocating the gatekeeping authority; procedure-level reforms improve what happens inside the commercial infrastructure without asking whether

that infrastructure should govern scientific quality assurance at all.

This work introduces *Open In-House Crowd Review* (OICR), a model that relocates the review and publication process to the institution that produced the research, anchors quality assurance in the producing community rather than a commercial intermediary, and produces *Diamond Open Access* publication as a structural consequence rather than an optional feature. The model is developed against a systematic mapping of the current peer review landscape, including three existing reform approaches, and situated within a broader account of the parallel discourse structures, shadow libraries, the preprint ecosystem, and alternative epistemic communities that have emerged in response to commercial publishing's structural failures. Non-commercial consortium and society journals are acknowledged as partial precedents for institutional anchoring; OICR's specific contribution is to combine that anchoring with an open crowd review mechanism, addressing both the pre-publication gate and publisher dependency simultaneously, creating a combination no existing reform proposal achieves. The model's incentive structures, bias mitigations, prestige constraints, financial logic, and unresolved challenges are examined in detail, and two hypothetical implementation scenarios illustrate its conditions of viability.

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Introduction

The problem is not only the procedure; it is just as well the infrastructure.

The dominant critique of peer review focuses on the procedure itself: its slowness, its susceptibility to reviewer bias, its inconsistency, its failure to detect fraud, its tendency to suppress paradigm-critical work. This critique is well-founded and well-documented (Smith, 2006; Ioannidis, 2005; Peters & Ceci, 1982; Tomkins, Zhang & Heavlin, 2017; Lee et al., 2013; Jukola, 2016; Tennant et al., 2017a; Armstrong, 1996). But it misidentifies the deeper problem.

The deeper problem is structural: the procedure that is supposed to serve science is embedded in an infrastructure that serves commerce. Academic publishing has become

increasingly concentrated in the hands of a small number of large commercial publishers – a trend that has accelerated since the advent of the digital era (Larivière, Haustein & Mongeon, 2015). This consolidation has coincided with a fundamental shift in financial risk: where authors and institutions once contributed a partial subsidy toward the production of scholarly monographs, *Book Processing Charges* (BPCs) have grown to the point where publishers may recover their entire costs before a single copy is sold. The *Article Processing Charge* (APC) extends this logic to journal publishing, and its costs in high-impact *Open Access* venues now routinely exceed €2,000–€5,000 per article (Gray, 2020), transferring financial exposure entirely away from publishers and onto researchers and their institutions.

The peer review labour that makes this infrastructure function is provided free of charge by the scientific community. A U.S. federal antitrust class action, *Uddin v. Elsevier B.V. et al.*, brought by researchers against several major academic publishers, argued that this arrangement amounts to collusion: publishers collectively benefit from unpaid scholarly labour while charging institutions substantial fees to access the resulting content. The case was dismissed in January 2026 on procedural grounds, meaning the court did not examine whether the conduct itself was lawful (Uddin v. Elsevier B.V. et

al., 2024/2026). What this arrangement purchases in return, the quality-assurance function that nominally justifies the publisher's role, has been progressively hollowed out, as evidenced by rising desk-rejection rates, the outsourcing of editorial decisions to impact-factor management, and the documented failure of pre-publication review to detect large-scale fraud (Smith, 2006).

These structural pressures have produced a system that fails researchers at both ends of the quality spectrum. In fast-moving fields such as AI research, the delay between submission and peer-reviewed publication has grown so severe that the scientific community has effectively abandoned the process, citing non-peer-reviewed preprints as the primary literature. At the other extreme, predatory journals exploit the author-pays model by accepting submissions regardless of quality in exchange for fees, with the boundary between predatory and legitimate publishing increasingly difficult to locate with confidence. Both failures share a common cause: when the incentive to publish is financial rather than epistemic, the infrastructure of scholarly communication loses its orientation toward quality.

Standardized, mandatory external peer review as a universal precondition for publication is a late 20th-century

invention: Nature did not mandate external review until 1973 (Csiszar, 2016), and the broader consolidation of the system across scientific and multidisciplinary journals was driven largely by rising submission volumes rather than by any epistemic breakthrough (Biagioli, 2002; Fyfe et al., 2017). *Ad hoc* external consultation existed earlier at some journals, but its transformation into a formalized, universal gatekeeping mechanism was organizational, not scientific in origin.

This argument rests on a premise worth examining: that commercial and epistemic interests in publishing pull in different directions in ways that matter. The divergence, however, is not inherent: a journal that consistently publishes poor work loses its reputation; publishers have genuine incentives to maintain standards, and for much of the 20th century those incentives were largely adequate. The overlap between commercial and epistemic interest is real and substantial. But it is not complete. The decisions that shape what enters the scientific record, namely which submissions an editor judges worth sending out for review, which fields attract APC investment, and which findings align with what a journal is known for publishing, are made on grounds that have no reliable connection to the quality of the underlying work. The system functions well enough where the two interests happen to coincide. Where they diverge, it produces outcomes that

cannot be defended on any scientific basis. The evidence reviewed below suggests that such divergence is not occasional but structural.

The system's defenders often point to its resilience: despite decades of critique, peer review survives, journals survive, publishers survive. This is true, and it is precisely the problem. The infrastructure has proven extraordinarily durable not because it serves science well, but because it has made itself the condition under which scientific careers are possible. Reform proposals that accept this condition and work within it have produced genuine improvements to the procedure. None of them has asked the prior question: who holds gatekeeping authority, and on what basis should they hold it? Anyone who has waited fourteen months for a review decision, paid four thousand euros to make their work freely readable, or had a manuscript rejected without explanation has already felt the answer the literature has not yet produced. The reform imagination has remained smaller than the critique demands. This work proposes a model built at the scale of this problem.

On Procedure

Peer review, in its procedural dimension, is an attempt to interpose epistemic scrutiny between a knowledge claim and its entry into the public record; to ensure that what is published has been assessed by someone other than its author, against criteria more than the author's own confidence in it. Four models define the landscape of peer review procedure reform: *Classical Peer Review*, *Open Peer Review*, *Post-Publication Peer Review*, and *Select Crowd Review*. The selection spans the main axes of procedural variation: anonymity and transparency, timing, and the pluralization of evaluators. They are ordered by distance from the status quo: each model represents a further departure from classical practice than the one before it. They are examined here as a set because they share a common ceiling: however far each departs from classical practice, all of them operate within the commercial

publishing infrastructure. Other procedural innovations exist, like registered reports, results-blind review, or overlay journals, but they either reduce to combinations of these axes or address question-framing rather than the evaluation procedure itself, and are not examined separately here.

Classical Peer Review

The standard model of peer review, *Classical Peer Review* (CPR) assigns evaluation of a manuscript to one to three independent experts before publication; the final decision rests with the editor, substantially informed by their reports. Its advantages are real: established legitimacy built over decades, access to specialist expertise, and a degree of accountability through named editorial responsibility. As already briefly discussed in the introduction, its disadvantages are equally well-documented: the process is opaque, slow (typically weeks to months), inconsistent across reviewers and journals, systematically biased against interdisciplinary and paradigm-critical work (Lamont, Mallard & Guetzkow, 2009; Huisman & Smits, 2017), and structurally dependent on the same commercial publishers whose economic interests diverge from epistemic ones (Fyfe et al., 2017). There is also a forward-looking structural problem: the willingness of

researchers to provide unpaid, largely unrecognized review labor, the fundament on which the entire system depends, is declining, particularly among early-career researchers, for reasons the system itself has produced.

Open Peer Review

Open Peer Review (OPR) makes reviewer identities, reports, or both transparent (Ross-Hellauer, 2017). This is a genuine improvement over the structural anonymity that enables careless or malicious reviewing without accountability. The theoretical case for named reviewing (increased accountability, reduced carelessness) is intuitive, though empirical studies have found no consistent quality difference between named and anonymous reviews (van Rooyen et al., 1999; Ross-Hellauer, 2017). Journals including *Nature Communications* and *EMBO Reports*, alongside the structured commentary culture of preprint servers, now implement versions of OPR, making it the most widely adopted reform within the existing commercial infrastructure.

The limit of OPR is that it changes the culture of the procedure without changing its location. The publisher still controls who reviews, which editors decide, and which

economic pressures shape thresholds. Transparency about reviewer identity does not resolve the conflict of interest built into the infrastructure. And named reviewing creates its own power asymmetry: junior researchers face real professional risk in publicly criticizing the work of powerful senior colleagues. Anonymity is not only a shield for bias – it is also a shield for honest, uncomfortable critique.

Post-Publication Peer Review

Post-Publication Peer Review (PPPR) treats the review process not as a pre-publication gate but as a continuous, publicly visible conversation (O'Sullivan, Ma & Doran, 2021). Platforms such as *PubPeer* and *PREreview* implement this idea by enabling open commentary on published work. PPPR has been argued to be particularly well-suited for interdisciplinary and socially relevant research that struggles in classical pre-publication structures (Tennant et al., 2017a).

The fundamental limit of PPPR, however, is presuppositional: it requires a paper to have been published before anybody can evaluate anything. The original selection problem, who gets in, and by what criteria, remains entirely untouched. Everything that never appeared is also never re-

viewed post-publication. PPPR improves the quality culture around work that has already been admitted; it does nothing to address the quality culture that governs admission itself.

Select Crowd Review

The most fully developed crowd-review model currently in practice is the *Select Crowd Review* (SCR) developed by Benjamin List and implemented since 2016 in *Synlett* and *SynOpen* (List, 2017; van Gemeren & List, 2021). In SCR, a manuscript is made available to a pre-selected, invited community of reviewers (curated by the editor, not self-selecting) for a brief time window (typically 48 hours). All submitted comments are visible to all participants, creating an open discourse space in which critique is mutually calibrated and refined.

The reported results are notable: review times dropped dramatically, often to under one week (List, 2017), the quality of feedback was rated by authors and reviewers as equivalent to or higher than classical PR, and the plurality of voices was experienced as an epistemic gain rather than a dilution of expertise (van Gemeren & List, 2021). The social visibility of comments also reduced destructive or opportunistic reviewing, functioning as a form of internal quality regulation

through social feedback that classical anonymous structures cannot achieve (van Gemeren & List, 2021).

SCR's limit is that it remains housed within the commercial journal infrastructure. The pre-selection of the reviewer community, the editorial thresholds, and the publication decision all remain with the publisher. SCR pluralizes the voices within the procedure without relocating the procedure. It is the most epistemically advanced model within the commercial infrastructure, and that infrastructure remains its ceiling.

On Infrastructure

The review model reforms examined above produce genuine improvements to the procedure of peer review. What none of them does is alter the conditions under which that procedure operates. This is not an oversight. The commercial publishing infrastructure has made itself the precondition for scientific publication, and reform proposals that accept this precondition, however sophisticated, can only change what happens inside it.

The distinction between procedure and infrastructure is not merely descriptive. Infrastructure is a relational rather than a material concept: something becomes infrastructure not because of its technical properties but because of its relationship to the organised practices of a community (Star & Ruhleder, 1996). It is embedded in social arrangements,

transparent in normal use, wide in temporal and spatial scope, and, most importantly, learned as part of membership in a community of practice. It is also built on an installed base that generates inertia, and it typically becomes visible only when it breaks down. Commercial scholarly publishing satisfies every one of these conditions. It is not infrastructure because journals are technically sophisticated; it is infrastructure because it is the first thing a graduate student must learn to navigate, because it links with the conventions by which careers are built, and because its failure points (the desk rejection without explanation, the four-figure APC, or the fourteen-month review cycle) are precisely the moments at which its normally invisible structure becomes legible. This makes the system extraordinarily durable, and reform proposals that work within it are bounded by the same durability.

Understanding the scientific publication convention as infrastructure also enables its classifcation as a commons under pressure. Knowledge can be defined as a shared resource subject to social dilemmas (Hess & Ostrom, 2007), neither a pure private good nor a pure public good, but a commons requiring active governance to remain open and productive. The primary threats that are identified in this framework are commodification and enclosure: the progressive capture of resources that were previously governed as shared goods into

proprietary arrangements that restrict access and concentrate control. This is the historical trajectory the following sections try to uncover. The scholarly communication system has not simply underperformed epistemically, it has progressively enclosed a commons. What follows is an account of how that enclosure operates, at the level of finance, procedure, and metadata governance.

The Business of Scientific Publishing

Academic publishing rests on a structural peculiarity: most of the labour that generates its intellectual value is provided without payment. Manuscripts are written by researchers employed by universities and research institutions. Peer review is performed by the same community, almost universally without direct compensation. Academic editorial board service follows the same pattern; the majority of editorial board members receive no payment, though editors-in-chief at high-profile journals, particularly in the clinical and biomedical sciences, may receive substantial stipends or salaries. The professional staff employed by publishers to coordinate manuscript handling and production are salaried, but their role is administrative rather than evaluative. The intellectual work of assessing manuscripts, the work that

makes a journal worth publishing in, is what the commercial publisher regularly does not pay for.

The funding model determines who pays for the surrounding infrastructure and when. In the subscription model, institutions pay for access to the output; the publisher captures revenue on the reader's side. Individuals outside of subscribing institutions can buy single articles or issues, often at prices that are hard to justify. In the *Open Access* model, authors (or their institutions) pay APCs per publication; the publisher captures revenue at the point of publication rather than the point of access. The labour subsidy is constant across both. *Diamond Open Access*, in which neither author nor reader pays and costs are borne institutionally or by funding bodies, is the structural exception and further examined below.

This arrangement was not designed, it grew: the postwar expansion of research output outpaced the publishing capacity of learned societies, the discipline-based membership organisations such as the *American Physical Society* or the *Royal Society of Chemistry* that had historically managed scholarly journals as a service to their fields, and of university presses. Commercial publishers entered at a point of genuine institutional need, bringing capital, print infrastructure, and distribution networks that no academic body could match

(Fyfe et al., 2017; Biagioli, 2002). The organisational solution to a logistics problem became, over decades, a structural fixture. What digitalisation exposed is that the original rationale for this arrangement, the physical infrastructure of print production and distribution at scale, has largely ceased to apply. The market concentration deepened regardless. By 2013, the top five publishers (*Elsevier*, *Springer Nature*, *Wiley*, *Taylor & Francis*, and *SAGE*) accounted for more than half of all papers published in the natural and social sciences, operating at profit margins of 30 to 40 percent (Larivière, Haustein & Mongeon, 2015; Lawson, Gray & Mauri, 2016). What the commercial publisher now owns is not infrastructure. It is prestige, and prestige, unlike a printing press, cannot be replicated by a competitor or rendered obsolete by technology.

This critique of the financial model should not be mistaken for a claim that commercial publishers produce nothing of value. The global STM/scientific publishing sector employs approximately 110,000 people directly worldwide (Johnson, Watkinson & Mabe, 2018). These roles sustain real functions (cross-publisher interoperability standards such as JATS/XML, persistent identifier infrastructure, and discovery systems) that any institutional alternative would need to replicate or replace. The argument developed here is not that these functions are unnecessary, but that they could be

organised without the commercial rent-extraction logic that currently governs them.

The prestige-creating mechanism is self-reinforcing: high prestige attracts more submissions; more submissions enable higher selectivity; higher selectivity produces more citations; more citations raise the *impact factor*; a higher *impact factor* raises prestige. The loop has no epistemic entry point. *Impact factor* is calculated from citation frequency within a defined time window, a measure of visibility within established networks, not of the quality of individual papers (Hicks et al., 2015; DORA, 2012). It is also a journal-level average: a paper published in a high-impact journal inherits the journal's score regardless of whether it is the issue's most significant contribution or its weakest. Yet *impact factor* functions as the primary currency in academic hiring, promotion, and funding decisions, not because it measures quality, but because it is legible and comparable across institutions. The prestige infrastructure is commercially owned and commercially maintained. It was never designed to serve the purposes it now governs.

The result is a system in which the authority to determine what counts as knowledge is held by institutions whose organising principle is not knowledge, but profit.

It is worth noting at this point that not all scientific publishing entities are commercial. Consortium-based journals, learned society publishers, university presses, and platforms operating under national *Open Science* infrastructure, such as *OpenEdition* in France or the journal hosting services funded under *Plan S* frameworks, demonstrate that the distribution and archiving functions of academic publishing can be organised outside the commercial model (Bosman et al., 2021; Fuchs & Sandoval, 2013). These arrangements are genuine improvements on the commercial publisher dependency described above. They do not, however, reform the review procedure that sits upstream of publication. More often than not, the editorial board remains small, the reviewer pool remains editorially solicited, and the opaque, non-attributed character of CPR is preserved regardless of whether the publishing entity is primarily profit oriented. The problem documented in the remainder of this section is a problem with the procedure, and it persists across publishing arrangements, commercial or not.

Desk Rejection

Academic journals receive far more manuscripts than they send to review. The first filter is not peer review but a

prior decision, often made by an editor alone, about whether a submission will be considered for further examination at all. In most cases, this decision is made quickly, without external input, and without obligation to explain. At the most selective journals, it eliminates between 75 and 90 percent of submissions; across journals more broadly, the median rate is approximately 30 percent, with rates below 10 percent at some field journals and above 90 percent at the most prestigious titles (Siler, Lee & Bero, 2015; Manusights, 2026). This rejection prior to any epistemic quality assessment has no formal name in most editorial guidelines. In academic reality, it is called *desk rejection*.

What the desk rejection actually assesses is not straightforwardly a question of quality. Concerns about the systematic underrepresentation of controversial findings in the published literature have a long record (Miller & Bloom, 1998; Armstrong, 1996). A 2026 study in the *International Journal of Public Health* asked three co-editors-in-chief to make independent desk rejection decisions on the same set of manuscripts: agreement at first pass was 43 percent, rising to 67 percent after consultation. The main drivers of disagreement were novelty and originality, criteria that most directly require substantive disciplinary judgment rather than formal assessment of scope or compliance (Künzli et al., 2026). This is not a

finding about individual competence. It is a finding about the nature of the task: desk rejection involves precisely the kind of evaluative judgment that most resists consistent application, yet it is normally applied by a single person, without stated criteria, without obligation to explain, and without chance to appeal. To put it in plain words: "out of scope" is not a justification, but the absence of one.

Who occupies the desk varies by field and journal type. At the most selective journals, the role has historically been held by active senior researchers whose disciplinary standing made their judgment, if not always correct, at least legible and accountable. At many commercial journals today, it has shifted toward professional editorial staff: more or less trained individuals who have moved into editorial careers and who handle desk decisions alongside submission management, reviewer correspondence, and production coordination. Their assessment is not evaluated on epistemic grounds alone; throughput and turnaround time are also performance criteria. At some journals, no subject specialist is involved at the pre-review stage at all, and the assessment is formally restricted to scope and format compliance. The diversity of arrangements is itself significant: there is no consistent standard for what kind of judgment is being applied by whom.

The structural problem is not resolved by better-qualified desk editors, because it is a problem of architecture (Barzilai-Nahon, 2009; Dotson, 2014). Wherever a single person issues a binary verdict without clearly stated criteria, the epistemic value of plurality is foreclosed at the moment it would matter most, and the desk is precisely the stage where that foreclosure has the largest downstream consequences. The Siler, Lee & Bero (2015) dataset makes this visible from within the system's own logic: papers that went on to become most highly cited were disproportionately ones that had previously been desk-rejected elsewhere. It is worth noting at this point that citation frequency is an imperfect proxy for epistemic value, and this its use as a quality measure will be discussed in more detail below. The data point is noted here because it tests the system against its own quantification and finds it wanting.

Selection at the desk is not a neutral act. It is shaped by disciplinary familiarity, by what a journal's brand requires reproducing, and by the commercial constraints under which editorial decisions are made. As argued in a related essay by the author, it is this pre-procedural filter, not the paywall, that most directly determines whose knowledge enters the record; removing the financial barrier while leaving the desk intact changes who can afford to publish without changing

who gets to be heard (Rolfes, 2026). The effect compounds across time: a systematic pattern of early rejection for particular frameworks, methods, or researcher profiles does not produce random noise in the scientific literature. It produces a record with a particular shape, one that reflects the evaluative assumptions of those who have historically occupied the desk rather than the range of legitimate epistemic contributions that were made.

Predatory Dynamics

The business model of scientific publishing has a feature that makes it structurally exploitable: it allows revenue to be extracted from the academic community by anyone who can credibly imitate the appearance of a legitimate publication venue. Peer review labour is free, the APC demand is normalised, and the prestige signal that makes payment rational depends entirely on surface resemblance. None of these require a functioning editorial process. Predatory publishing is not a corruption of the commercial model from the outside; it is a product of it: the same extraction logic, operated without the residual quality functions that legitimate publishers retain because their long-term revenue depends on them.

Predatory journals solicit submissions regardless of subject fit or methodological quality, accept manuscripts in exchange for APCs without meaningful review, and trade on superficial resemblance to legitimate journals through similar naming conventions, established identifiers like ISSN and DOIs, fabricated impact metrics, and editorial board listings populated with researchers, often without their consent. The category was first formally identified in the early 2010s (Beall, 2012) and has since grown to a scale that constitutes a structural feature of the publishing landscape rather than a peripheral one (Koerber et al., 2023). The geographic distribution of predatory publishing is uneven for structural rather than cultural reasons: the conditions that make researchers vulnerable (publish-or-perish pressure, limited institutional support for vetting venues, and restricted access to funding for legitimate open access publication) are distributed unequally across global research systems. Researchers who submit to predatory venues are often responding rationally to the incentive structures they face rather than acting in bad faith (Koerber et al., 2023; Niles et al., 2020). Predatory conferences operate on the same logic, primarily functioning as fee-collection mechanisms rather than venues for scholarly exchange; their solicitation emails are frequently indiscriminate across disciplines, which is not incidental but reflects a model in which content is irrelevant to the transaction.

The most structurally dangerous variants of predatory publishing involve the exploitation of existing legitimate prestige rather than the fabrication of new, superficial prestige. In journal hijacking, the external identity of a legitimate journal, its title, ISSN, and web presence, is cloned by malicious actors and used to collect APCs while publishing without review or under false pretences (Jalalian & Dadkhah, 2015). Abalkina (2024) found 67 hijacked journals that had penetrated Scopus since 2013, of which 33 had managed to index unauthorised content in the database. A second and distinct dynamic is journal capture, in which editorial control is transferred incrementally through the replacement of staff or changes in ownership until the original institution retains only nominal association with a title it no longer governs. Both mechanisms are more dangerous than a straightforwardly predatory journal because they parasitise existing prestige rather than fabricating it: a researcher submitting to what appears to be a long-standing legitimate title has no obvious reason for suspicion. This is the commercialisation dynamic operating not at the margins of the prestige economy but inside it.

The predatory sector exists because the established publishing system has failed to meet the publication demand at a price researchers can pay. That demand is produced by the

already examined logic of quantified research assessment: hiring and promotion committees that assess researchers by publication count and journal tier rather than by the content of their work create an incentive to publish as frequently as possible in venues that carry the right signals (Hicks et al., 2015; DORA, 2012; Niles et al., 2020). A metric that cannot distinguish between a rigorously reviewed article and a fee-for-acceptance transaction actively incentivises the production of the latter.

The boundary between predatory and mainstream commercial publishing has also become harder to locate in the other direction. The outsourcing of production and copyediting to contractors without subject training has introduced errors into mainstream commercial journals that would have been unthinkable in earlier editorial cultures: authors reporting no traceable contact point for submitted manuscripts or bibliographic errors of a kind that could only be produced by someone who has never read the literature (like filing entries under “Spain, Peter of” rather than “Peter of Spain”); errors that require multiple unnecessary correction cycles and signal the absence of anyone in the production chain with sincere subject knowledge. The predatory sector makes visible a degradation that is not unique to it.

Open Access

The established commercial scientific publishing model has an obvious reform target: the cost of access. When institutions pay to access the research they funded, the demand for structural change is well-grounded. *Open Access* (OA) is the dominant reform response to this diagnosis. It is not, however, a single model, and the distinctions between its variants matter more than the label they share.

Gold Open Access (GOA), the APC-funded model dominant at commercial journals, removes the reader paywall while relocating the cost to authors and their institutions. It does not change who controls the gatekeeping decision; it changes who pays to participate in it. The distributional consequences of this shift are well-documented: APC-funded OA systematically disadvantages researchers without institutional funding, those in lower-income countries, and independent scholars (Gray, 2020; Tennant et al., 2017b).

Diamond Open Access (DOA), free to read and free to publish, is funded through institutional or consortium subsidy rather than per-article charges (Fuchs & Sandoval, 2013). The model is demonstrably viable at scale: 73% of journals registered in the *Directory of Open Access Journals* operate on DOA terms,

with particular concentration in the humanities and social sciences (Bosman et al., 2021). The *Journal of Machine Learning Research*, founded in 2000 after 37 members of the editorial board of *Machine Learning* resigned in protest at commercial access restrictions, has operated on DOA terms for over two decades and remains one of the premier publication venues in its field (Jordan et al., 2001).

For completeness, it is worth noting that the OA landscape contains various nuances and models representing different positions on the spectrum between Toll Access and DOA (Piwowar et al., 2018). Given the scope of this work, however, a more detailed examination of these alternatives adds no further relevant information to the present discussion.

What the landscape clarifies, once its variants are distinguished, is the difference between cost reform and structural reform. Removing the financial barrier while leaving the gatekeeping structure intact changes who can afford to publish without changing who gets to be heard (Rolfes, 2026). DOA is the closest the existing landscape comes to addressing the financial dimension, and it is the necessary foundation for what this paper proposes. It is, however, not sufficient on its own.

Indexing and Metadata Infrastructure

The financial model of commercial publishing is the most visible dimension of the infrastructure problem. A less visible yet structurally significant dimension is the control of metadata and indexing: the systems that determine whether a publication exists, as far as the scholarly record is concerned.

The *Digital Object Identifier* (DOI) has become the *de facto* persistent identifier for scholarly publications, and the dominant infrastructure for DOI registration and metadata exchange in the humanities and social sciences is *Crossref*, a membership association founded in 2000 by a consortium of commercial publishers (Hendricks et al., 2020). *Crossref* is formally non-profit and has adopted open infrastructure governance principles; its core metadata and API are publicly accessible (Hendricks et al., 2020; POSI Adopters, 2025). The problem is not its ownership structure but its structural position. A publication without a *Crossref*-registered DOI is, for practical purposes, outside the citation network: it will not appear in reference management tools, will not be found by database crawlers, and will not be indexed by the discovery systems that librarians and researchers depend on. The scholarly record does not pass through commercial publishers alone but also through the metadata infrastructure

those publishers helped build and continue to govern through board membership and fee structures.

For any institutional publishing initiative, this creates a concrete dependency. Obtaining a DOI prefix and depositing metadata requires *Crossref* membership, which carries annual fees tiered by organisation size. The "GEM" programme waives fees for eligible low-income country members, but institutions in the Global North without substantial publishing revenue face the full fee schedule. More significantly, what an institution deposits, and in what format, shapes how its publications are discovered, cited, and assessed. Publishers have recently begun restricting the open availability of abstract-level metadata in aggregation services such as *OpenAlex*, reportedly to preserve commercial value in licensing that data for AI development (de Jonge & Kramer, 2026). The metadata layer, long treated as neutral infrastructure, is increasingly a site of active commercial contest.

Alternatives exist and are developing. The *Initiative for Open Citations* (I4OC) has pushed *Crossref* members toward open reference data (Hendricks et al., 2020). *OpenCitations* provides bibliographic and citation data entirely outside the *Crossref* dependency, under CC0 licensing (Peroni & Shotton, 2022). *OpenAlex* aggregates scholarly metadata from multiple

open sources and represents the most comprehensive current alternative to *Crossref*-dependent discovery systems (Priem, Piwowar & Orr, 2022). These initiatives are genuine structural improvements. They are also, at present, less complete and less universally recognised than the infrastructure they supplement. The competitive pressure on this layer is also not stable: the progressive restriction of open metadata by commercial aggregators, documented above, means the non-commercial alternatives must actively maintain and expand their coverage to avoid the gap between them and the incumbent infrastructure widening rather than closing.

Any radical reform proposal must therefore account for this layer explicitly. Resolving publisher dependency at the level of the review procedure and the publication decision does not resolve it at the level of metadata and discoverability. As long as the systems that determine whether a publication exists in the scholarly record are governed by the entities that benefit from controlling them, institutional alternatives operate within a dependency they have not dissolved. The structural response is collective rather than individual: shared DOI registration, metadata deposit, and discovery indexing managed at the level of national or inter-institutional consortia, rather than purchased separately by each publishing initiative. This is already partially present in the *Open Science* frameworks that several

European funding systems have begun to build. It is a condition of viability for institutional publishing at scale, not an optional enhancement.

Beyond Academic Publishers

The following paragraphs serve the intention to map the field beyond the commercial publisher system, and beyond academia, for cues about how quality assurance actually works. Some of what follows documents responses within and at the edge of academia: structures that emerged specifically because the academic publishing system failed to provide something the research community needed. But some of it documents something different: communities that developed rigorous mechanisms for evaluating claims and verifying knowledge with no reference to academic publishing at all, because the problem they were solving had nothing to do with academic publishing. Both kinds of evidence matter. The first shows that the academic community is already building alternatives. The second shows that the dependence on commercial infrastructure was never a logical necessity.

The argument is that quality assurance is older, broader, and more various than the systems that currently organise it in academic life.

Sci-Hub

For researchers without institutional access to subscription-based content, workarounds exist and persist. *Sci-Hub*, founded in 2011 by Alexandra Elbakyan, is the largest of these: a shadow library that provides free access to over 85 million scholarly papers regardless of subscription status, paywall, or embargo. It is not a publishing model and not a reform proposal. It is a measure of how far the access infrastructure falls short of the knowledge commons that academic publishing formally claims to sustain.

What makes *Sci-Hub* diagnostically significant is not its existence but its user base. Bohannon's (2016) analysis of download requests demonstrated that *Sci-Hub* is used extensively by researchers at well-resourced institutions in high-income countries, not only by those without institutional access. Himmelstein et al. (2018) confirmed that *Sci-Hub* provides access to approximately 85 percent of all articles in toll-access journals and to nearly the complete output of

the major commercial publishers. The demand it meets is therefore not a residual demand produced by underfunded institutions at the margins of the global research system. It is a demand produced by the access infrastructure itself, including at its best-resourced nodes.

The legal record is unambiguous: *Sci-Hub* has been ruled illegal in multiple jurisdictions, and several major publishers have obtained injunctions and damages awards against it. It persists regardless, because the demand that created it has not been addressed by the legal outcomes that followed. This is the diagnostic point. A workaround that survives sustained legal suppression across more than a decade is not evidence of lawlessness; it is evidence that the gap it fills was created by the infrastructure, not by a failure of technology or enforcement. In other words: the access barrier is structural, and *Sci-Hub*'s persistence is its measure.

The ethical dimension deserves acknowledgment without the attempt of resolution. For researchers in low-income countries or outside of established institutions, *Sci-Hub* frequently functions not as a workaround but as the primary route to the literature their work requires: institutional subscriptions are priced for high-income economies and simply out of reach for anybody elsewhere. For the same use,

a researcher at a well-resourced European or North American institution makes a different kind of calculation: convenience, speed, and a refusal to accept a paywall on publicly funded research. Whether these uses carry the same ethical weight is a question this article does not adjudicate. What the distribution of use does establish is that the copyright argument and the access argument are not symmetrical: one defends a contractual arrangement between publishers and institutions; the other describes a structural exclusion from the knowledge commons that academic publishing formally claims to extend.

Parallel Discourse Structures

The journal system is not the only venue in which scholarly exchange occurs. Over the past two decades, a set of parallel discourse structures has emerged alongside it, which can be understood as independent responses to the structural conditions that the commercial journal system has created (Larivière, Haustein & Mongeon, 2015). They are heterogeneous in form and origin, but they share a common logic: each routes around the commercial gate rather than engaging with it.

The oldest of these structures is academic blogging. By

the mid-2000s, scholars had established blogs as spaces for informal peer commentary, methodological debate, and rapid response to published work (Kjellberg, 2010). Blogging does not produce peer-reviewed output, but it performs recognisable scholarly functions: critical engagement with claims, identification of errors and limitations, and the circulation of work in progress – a form Gregg (2006) has characterised as "conversational scholarship." Social media platforms extended this logic further. On *Twitter/X*, and increasingly on *Bluesky* and *Mastodon* following the fragmentation of the former platform, scholars developed distributed practices of post-publication commentary: citations to preprints, public methodological critique, and crowdsourced error detection have become regular features of scientific discourse in several fields (Teixeira da Silva & Dobránszki, 2015). Whether the partial migration to decentralised platforms has preserved or dispersed this function remains, as yet, an open empirical question.

Newsletter platforms represent a more recent development. *Substack* and comparable formats have enabled long-form scholarly writing outside the constraints of peer review, while aiming to maintain scholarly standards of argument, though systematic scholarly assessment of this practice remains limited. The structural costs are real: the output is

not peer-reviewed, not indexed in standard databases, and not career-legible in the sense that formal assessment systems require (Hicks et al., 2015). Scholars who write primarily in this format produce work that may circulate widely while remaining invisible to the institutional record.

Annotation and commentary platforms occupy a distinct position. *Hypothesis* provides layered annotation infrastructure applicable to published work and preprints alike. *PubPeer* has functioned as a structured venue for post-publication scrutiny, and has contributed to the identification of data irregularities, image duplications, and methodological concerns that pre-publication review did not catch (Knoepfler, 2015). Whether this constitutes peer review in a formal sense, or structured public commentary with peer-like effects, remains debated; what is not in dispute is its practical function as a corrective layer on the published record. Both platforms connect to the PPPR function discussed above.

Working paper series occupy yet another niche. The US-American *National Bureau of Economic Research* (NBER) and the German *Institute of Labor Economics* (IZA) have long provided channels through which research in economics circulates outside commercial infrastructure, often for extended periods before eventual journal submission. The *Social Science Research*

Network (SSRN) performed a comparable function across the social sciences until its acquisition by *Elsevier* in 2016, which transferred a major node of non-commercial scholarly circulation into the hands of one of the infrastructure's dominant commercial actors (Pike, 2016). The acquisition illustrates a structural vulnerability these parallel channels share: independence from commercial infrastructure is not self-sustaining when the infrastructure is capable of acquiring it.

None of these structures produces the validated, citable, and career-legible output that academic hiring, promotion, and funding systems formally require, though the degree of invisibility varies by discipline and context (Wilsdon et al., 2015). They circulate knowledge, but they do not certify it in the form the system accepts. A methodological critique in a *PubPeer* thread, a theoretical argument developed across a series of newsletter posts, a working paper that has received extensive informal peer input: all may be epistemically valuable, but none substitutes for a journal publication in the systems that govern academic careers.

The fact that these structures have emerged independently, across different disciplines, platforms, and institutional contexts, is consistent with a latent demand for faster, more open,

and more iterative scholarly exchange that the commercial journal system is structurally constrained to meet (Nosek et al., 2015; Björk & Solomon, 2013). They constitute evidence that the system's constraints are widely felt and persistently worked around. What they do not constitute is a resolution. Each operates at a remove from the formal system, producing work that circulates, informs, and sometimes corrects, but that does not enter the verified record on which cumulative knowledge-building depends. The preprint ecosystem emerges from the same frustrations, but with a different structural orientation: it does not abandon the journal as the endpoint of scholarly communication, it restructures the path toward it.

The Preprint Ecosystem

Preprint servers allow researchers to make manuscripts publicly available before journal submission, so the work can circulate and attract comment before the commercial gatekeeping decision is made. Servers like *arXiv*, *bioRxiv*, *medRxiv*, *PsyArXiv*, and *ChemRxiv* all follow this basic model. The structural effect is real: research reaches readers months or years earlier, errors can be caught before the work enters the formal record, and access does not depend on institutional

subscription.

arXiv is the oldest of these platforms, founded by Paul Ginsparg in 1991 for high-energy physics, even before the World Wide Web existed. More than three decades of uninterrupted operation is itself a piece of evidence: preprint infrastructure can be stable, free, and independent of commercial publishing for a long time (Ginsparg, 2011). The subsequent proliferation of discipline-specific servers reflects both how far the model has spread and how uneven that spread remains. Preprint culture is well established in physics, mathematics, economics, and increasingly biology, chemistry, medicine and psychology; in large parts of the humanities and social sciences, however, it remains marginal or contested. The infrastructure is available, the norm of using it is not yet universal (Abdill & Blekhman, 2019).

The clearest demonstration of what the preprint ecosystem can do (and what it cannot) came during the COVID-19 pandemic. The formal publication cycle, which typically runs to several months from submission to appearance, was simply too slow. Research that needed to reach clinicians and policymakers within days or weeks could not wait for it. The scientific community ran on preprints, and formal peer review arrived afterwards, ratifying or correcting work that

had already shaped decisions (Fraser et al., 2021). In the best cases this worked: the quality assurance process was deferred rather than absent. The "Surgisphere" affair illustrated the other possibility (Boetto et al., 2021): a fraudulent dataset underpinned multiple preprints that influenced clinical guidance in several countries before the work was retracted. The damage had already been done by the time formal scrutiny arrived. Pre-publication review is not bureaucratic overhead; the pandemic demonstrated what its absence can cost.

In AI research the dynamic is different in character but comparable in structure. Peer-reviewed publication lags the field by two years or more, and the research community has adapted by treating preprints as the primary literature. Sutton and Barto's reinforcement learning textbook circulated freely as a draft for years before its formal publication – an early version of what is now standard practice in the field. Citation networks in AI are largely self-contained within the preprint layer and operate well outside formal quality assurance.

The limit of the preprint ecosystem is structural and has not been resolved. Academic hiring, promotion, and grant review continue to treat journal publication as the authoritative output; a preprint, however widely read and discussed,

does not substitute for it (Hicks et al., 2015; Niles et al., 2020). The preprint circulates in a parallel channel, but the career system has not moved into that channel alongside it. What the preprint bypasses at the point of circulation, the career system reinstates at the point of evaluation. The selection problem is deferred, not dissolved, and the commercial journal retains its position as the record that counts.

Quality Assurance in Alternative Epistemic Communities

Quality assurance is not exclusive to the established academic publishing system. It takes different forms, operates at different speeds, and is governed by different norms depending on the epistemic community in question (Longino, 1990). Peer review is *one* institutionalised mechanism for organising that function. It is not the only one that has produced reliable knowledge, and several fields have developed alternatives that operate alongside it or independently of it.

Within academia, mathematics is the clearest case. The standard of validation is proof, and the relevant community of evaluators is not a journal's editorial board but the community of mathematicians with the relevant technical expertise to follow an argument. This evaluation happens in public: on

arXiv, in seminars, and in correspondence; often long before formal publication and sometimes regardless of it (Krantz, 2011).

Two cases illustrate the range of outcomes this arrangement can produce. Grigori Perelman's proof of the "Poincaré conjecture", posted to *arXiv* in three papers between 2002 and 2003 and never submitted to a journal (Perelman, 2002; 2003a; 2003b), was verified by the community over the following years and recognised with the *Fields Medal* in 2006 as well as the *Millenium Prize* of the *Clay Mathematics Institute*, which Perelman both declined (Mackenzie, 2006; Ritter, 2010). The proof was subsequently named the "*Science* Breakthrough of the Year" for 2006 (Kennedy, 2006). Community validation operated here entirely independently of commercial publication, and the formal record eventually caught up with a consensus the community had already reached.

The case of Shinichi Mochizuki's claimed proof of the "*abc* conjecture" illustrates the limits of the same arrangement. Mochizuki posted four preprints to *arXiv* in 2012 developing a framework he called "inter-universal Teichmüller theory" (Ball, 2012), and the community spent more than a decade attempting to evaluate it. Following a week of intensive discussions with Mochizuki at Kyoto in March 2018, Peter

Scholze and Jakob Stix concluded that "there is no proof" and identified a flaw "so severe that in our opinion small modifications will not rescue the proof strategy" (Scholze & Stix, 2018). Mochizuki disputes the objection. The proof was published in 2020 in *Publications of the Research Institute for Mathematical Sciences* – a journal of which Mochizuki is editor-in-chief, though he is reported to have recused himself from the editorial process. The formal publication record registers the proof as accepted; a substantial part of the epistemic community does not. As of today, the controversy remains unresolved, with subsequent independent analysis continuing to contest the proof's validity (Joshi, 2025). The Mochizuki case illustrates that formal publication can record a claim as accepted while the relevant epistemic community withholds that acceptance, and that community scrutiny, in such cases, carries greater epistemic weight than the formal publication record (Krantz, 2011).

In the field of economics, research regularly circulates as working papers through various channels, often for years and through multiple revisions based on conference feedback, seminar discussion, and direct correspondence before journal submission (Hamermesh, 1994). By the time many papers appear in print, the findings are already widely known and have already shaped subsequent work. The journal publi-

cation functions, in many cases, as a formal record of work the field has already evaluated (Card & DellaVigna, 2013). In this respect, the commercial intermediary functions less as a gatekeeper than as a notary formalising evaluations the field has already made.

Clinical medicine offers a different model again. The *Cochrane Collaboration*, founded in 1993 by Iain Chalmers and colleagues at Oxford, was established precisely to produce systematic reviews outside the commercial publisher system: credible, methodologically explicit, regularly updated, and free from commercial sponsorship and conflicts of interest (Chalmers, 1993). The model drew directly on Cochrane's earlier argument that clinical practice required systematic, disinterested synthesis of trial evidence (Cochrane, 1972). *Cochrane Reviews* are institutionally anchored in a global network of review groups with domain expertise, governed by explicit methodological standards, and subject to ongoing maintenance as new evidence emerges. They are not journal articles. They are a parallel quality assurance infrastructure built to serve the epistemic needs of evidence-based clinical practice more directly than the standard publication system can.

Software development and computational research have

produced yet another set of mechanisms: *open source* code review, reproducibility checks, and benchmark competitions function as community quality signals that operate entirely outside journal infrastructure. Platforms such as *rOpenSci* apply structured peer review to research software packages through transparent, open processes on *GitHub*, with named reviewers and publicly archived review threads (rOpenSci et al., 2026). The output is not a publication; it is a certified, maintained codebase. The quality assurance function is identical to peer review in its logic and separable from publication in its form (Ross-Hellauer, 2017).

The examples above all involve communities whose members are, in the main, credentialled researchers. The point they establish is that quality assurance can be decoupled from commercial publishing infrastructure. A stronger version of the same point emerges from communities that developed functional epistemic norms with no institutional affiliation at all.

Wikipedia is the most studied of these. It is not a reliable source in the sense that academic citation requires, and its own guidelines say so explicitly. But it has its own quality assurance system, with dispute resolution mechanisms, source verification norms, edit history transparency, and

a community of editors who enforce standards through structured contestation rather than credentialled authority (Stvilla et al., 2008; Benkler, 2006). The anonymity structure functions differently from academic peer review: it protects contributors from retaliation but removes the named accountability that academic authorship requires for a different set of reasons. "Edit wars", which are widely interpreted as evidence of *Wikipedia*'s unreliability, can also be assessed as evidence of its quality assurance mechanism working: contested claims are flagged, sourced, and argued over in public. As several analysts have argued, public contestation of claims is not a failure of the quality assurance mechanism but a feature of it (Fallis, 2008). The outcome is imperfect; so is peer review. The relevant observation is that the mechanism exists and was developed independently of any academic or commercial institution.

Gaming and software cracking communities present a comparable (yet more speculative and completely academically unaffiliated) case with a different epistemic object. Communities organised around speedrunning, exploit discovery, and game verification have developed explicit standards for evidence, like screen capture requirements, reproducibility conditions, or verification protocols, enforced entirely through community norm and reputation, with no institu-

tional infrastructure and no formal credentials as a condition of participation. The knowledge produced is domain-specific and not academically citable, but the epistemic norms governing its production are recognisable: claims require evidence, evidence requires verification, and verification is performed by people with relevant expertise.

The point is not that *Wikipedia* or gaming communities should serve as models for academic quality assurance, but that quality assurance is not inherently dependent on the current commercial-institutional apparatus, and the existing peer review model is not the only existing reliable source of truth. Communities develop the mechanisms they need when the apparatus does not serve them or does not exist for them. The commercial journal system is not the origin of epistemic rigour, but simply one institutional form it has taken (Longino, 1990).

What all these examples share is a common structural feature. In each case, quality assurance is anchored in the community with the relevant expertise. The intermediary (commercially or not – where it exists at all) handles distribution and archiving. The evaluation is performed by people who know the field, operating according to norms the field has developed, at a pace the field requires. The commercial

journal system conflates these two functions – evaluation and distribution – and exercises gatekeeping over both (Roosendaal & Geurts, 1997). That conflation is a contingent institutional arrangement, not a structural necessity (Fitzpatrick, 2011). The examples presented above demonstrate that it is separable in practice, not only in theory.

This is the ground on which OICR builds. The proposal is not to invent a new logic for quality assurance but to make explicit, generalizable, and structurally independent of commercial infrastructure a logic that already operates across several fields. The institution, not the commercial intermediary, becomes the evaluating community.

The OICR Model

The preceding sections have described a landscape of genuine improvements to scholarly communication. OA initiatives have reduced the access barrier without altering who controls the gatekeeping decision. OPR and PPPR have increased transparency without relocating the locus of authority. Preprint ecosystems have accelerated circulation without substituting for formal validation. Alternative epistemic communities have demonstrated that quality assurance can be organised independently of commercial infrastructure without producing outputs that the academic career system recognises. Each of these developments addresses a real problem, but none really addresses the root.

The root problem is structural: scientific quality assurance has been contracted out to a commercial infrastructure

whose economic interests are not aligned with the goals of science, and the academic career system has organised itself around the outputs that infrastructure produces. Reform efforts that work within this arrangement (like improving how journals behave, making their outputs more accessible, and supplementing their processes with parallel channels) leave the arrangement intact. The demand for a faster, more open, more equitable scholarly communication system is documented and persistent. The supply of infrastructure capable of meeting it on terms that do not reproduce the commercial gatekeeping logic has not materialised from within the existing system, because the existing system has no incentive to produce it.

Open In-House Crowd Review (OICR) starts from the opposite premise. Rather than improving the procedure within its current housing, it relocates the entire quality assurance and publication process to the institution that produced the research. The remainder of the present text proposes and specifies the model in full.

Core Mechanism

A completed manuscript is deposited on an institution-operated platform: not a commercial journal server, but a repository maintained by a university, research institute, or inter-institutional consortium. Registered members of that platform (e.g., internal researchers, doctoral students, affiliated external experts, and credentialed practitioners) are invited to submit structured comments within a defined time window, typically one to three weeks. All comments are visible to all registered participants throughout the window. This replicates the mutually calibrating dynamic that makes SCR work: reviewers can see what has already been said, reducing duplication and encouraging responses to contested points (van Gemeren & List, 2021).

A minimum threshold of substantive comments is required before editorial collation proceeds. The exact number is an empirical question for pilot implementation; the threshold exists to prevent thin comment windows from producing uninformative assessments. Following the comment period, an editorial team employed by the institution collates the feedback, identifies substantive revision requirements, and returns the bundled assessment to the authors. After revision, the manuscript is either published on the institutional plat-

form, returned for further revision, or declined. The decision rests with the institution. Publication is DOA by design: freely readable, freely submittable, DOI-assigned, and permanently archived. No APC. No subscription.

The total elapsed time from submission to publication decision is estimated, based on SCR precedent and standard editorial turnaround norms, at four to eight weeks, which is substantially faster than CPR's typical cycle of several months, and slower than SCR's 48-hour window, which requires no post-comment editorial integration (List, 2017).

Two structural parameters are configurable per submission or per platform: whether reviewing is open or anonymous, and whether registration is open to any credentialed researcher or restricted to affiliated members. The tradeoffs are real in both cases. Open, attributed reviewing increases accountability and makes comments citable, but may deter junior reviewers and produce self-censorship in contested fields. Credentialed-only access reduces noise but risks replicating the exclusion dynamics of the existing system (Barzilai-Nahon, 2008; Merton, 1968; Jukola, 2016; Oleinik, 2015). These parameters should be treated as design choices to be tested empirically in pilot implementations rather than fixed in advance. A further open question is whether

submitted comment threads and prior manuscript versions should be published alongside the final output as a permanent record of the review process. The case for doing so is strong: transparency, manipulation-resistance, and a citable record of knowledge production. But arguments against it also exist: the permanent public availability of rough drafts and early-stage criticism may deter submission from researchers at career stages where reputational risk is acute. This is a question for empirical piloting, not theoretical resolution.

The crowd review mechanism presupposes a reviewer community of sufficient size and disciplinary range to produce meaningful plurality. This condition holds comfortably in fields with large, distributed research communities, including most of the natural sciences, the social sciences, and applied fields with significant institutional presence. It is more constrained in highly specialised subfields with small global communities, where even a consortium scenario may not generate a reviewer pool that differs meaningfully from a traditionally solicited editorial panel. The model does not claim universal applicability; its conditions of viability are strongest where institutional research communities are large enough to support genuine plurality without exhausting the available pool of non-conflicted reviewers.

What the OICR model changes structurally is the locus of the gatekeeping decision. Under current frameworks, final authority over what enters the scientific record rests in most cases with a commercial entity whose economic interests are not necessarily aligned with those of science. Under OICR, that authority returns to the institution that produced the research. The review labour that the academic community has always provided without financial compensation now operates in an institutional rather than a commercial context. This shift is not merely procedural but a change in who governs scientific knowledge production.

Incentive Structures

The objection that reviewers only participate because of the reputational benefit of association with a prestigious commercial journal misreads the existing evidence. The largest systematic survey of reviewer motivations found that contributing to the field, reciprocal community obligation, and interest in the manuscript itself consistently outrank journal prestige and financial incentives; 59% of respondents reported that material compensation provided very little motivation (Publons, 2018). Peer review labour is performed almost entirely without financial compensation and with

minimal formal recognition. The primary incentive is disciplinary citizenship: the diffuse professional norm that the system functions because its members contribute to it. OICR does not abolish this norm but relocates it and adds two structural improvements.

First, OICR participation can be made formally recognisable in tenure and promotion dossiers in the same way that editorial board service, committee membership, and grant reviewing already are. Several institutions even already count OPR contributions in assessment frameworks aligned with the *Declaration on Research Assessment* (DORA, 2012; Schekman & Patterson, 2013). OICR makes this recognition structurally available rather than exceptional. Second, the visible and attributed character of OICR comments creates a direct reputational incentive that CPR does not offer: a substantive, well-argued review comment can be a citable intellectual contribution in its own right. The reviewer is no longer donating labour to a commercial entity; they are producing a visible output under their own name.

The urgency of this restructuring is not merely theoretical. Declining participation rates and reviewer fatigue in CPR, documented across multiple surveys and disciplines, indicate that the current incentive structure is already failing (Hor-

bach & Halffman, 2018; Publons, 2018). The reviewer pool is contracting at the same time as submission volumes are rising. OICR's institutional recognition pathway addresses the structural cause of this problem rather than its symptoms. The open comment window also lowers the barrier to entry for early-career researchers compared to being solicited by a journal editor as a named reviewer: participation is available to anyone registered on the platform, not only to those with the professional visibility that gets them onto an editor's contact list.

Insulation Against Local Bias

The risk of institutionally anchored review is the inverse of the commercial system's risk. Where commercially organised peer review suffers from opacity and status hierarchy, in-house review risks insularity, departmental politics, and the suppression of internal dissent. Three structural features of OICR mitigate this.

The first is the inter-institutional consortium model, in which the reviewer pool is distributed across multiple institutions, reducing the leverage of any single departmental faction. This is also the normative target implementation for

OICR and is discussed in detail below. The second is the public visibility of all comments: the same dynamic that reduces destructive reviewing behaviour in SCR (van Gemeren & List, 2021) makes nepotistic or politically motivated assessments visible and therefore socially costly. The third is an opt-in mechanism by which authors or editors may request inclusion of external reviewers from a broader network for submissions where internal conflict of interest is a concern.

These three features are not independent. The first requires the second to function as a bias-reduction mechanism: a distributed reviewer pool without transparent comment threads simply relocates rather than mitigates political pressure. Feature three is best understood as a configurable safety valve, triggered when the first two features are insufficient, for example in small consortia with high internal familiarity or in cases of known disciplinary conflict. None of these features eliminates bias but make it structurally visible and socially auditable in ways that commercially organised peer review, with its closed editorial deliberations, does not (Lamont, Mallard & Guetzkow, 2009).

One additional complication deserves explicit treatment. The bias risk in institutionally anchored review is not only the familiar one of nepotism toward allies. In multi-paradigmatic

disciplines with competing theoretical schools, which Kuhn (1962) already identifies as a structural feature of normal science, institutional review can be weaponised against dissenting colleagues rather than only in favour of aligned ones. This might be called negative nepotism: the systematic disadvantage accruing not from who supports a researcher but from who evaluates them. The risk is therefore not only "review by allies" but also "review by rivals," and the structural mitigations must be understood as addressing both directions of bias. The moderation requirements that follow from this will be discussed further below.

Prestige

This is the most structurally difficult challenge OICR faces and deserves direct acknowledgment rather than optimistic deflection.

An OICR publication from a single institution carries no universal prestige currency in the current academic market. This is a real obstacle, particularly for early-career researchers whose career prospects depend on signals that are legible to hiring committees at other institutions. Two partial responses are available. The inter-institutional consortium

model creates a field-level publication venue with its own ISSN, editorial identity, and community of readers that is not institution-specific; a paper in a consortium journal for, say, science and technology studies is readable as a community publication rather than an institutional vanity press. And prestige accretes through consistent quality and community adoption over time; every currently prestigious journal was once unrecognised. These responses are partial and the timeline is substantial: before becoming widely accepted in the community, OICR publications are most viable as supplementary outputs alongside conventionally published work rather than as replacements for it.

The fundamental problem, however, runs deeper than OICR's standing in the current market. Journal prestige tracks institutional visibility at the journal level, not the epistemic value of individual papers. This dysfunction is extensively documented in the literature on research assessment (Brembs, Button, & Munafò, 2013; Hicks et al., 2015; DORA, 2012). Hiring committees that treat journal impact factor as a quality signal are outsourcing quality assessment to a commercial metric whose construction has no necessary connection to the epistemic value of the individual papers it ranks. This administrative convenience is actually an epistemic failure.

The prestige problem OICR faces is therefore a symptom of this dysfunction, not an independent obstacle. OICR is designed to remedy it: by creating structural conditions under which quality assessment is performed by a community with institutional accountability for the results rather than by a commercial brand whose prestige is self-reinforcing and self-serving. The dysfunction will not resolve in a single publication cycle; OICR creates the conditions under which it becomes resolvable over time.

Financing

Decoupling from commercial publishers removes APCs but does not remove costs. Server infrastructure, editorial coordination, technical maintenance, and moderation capacity must be funded somewhere. OICR relocates these costs from the author (APC) or the reader (subscription) to the institution, which already funds library infrastructure, repository maintenance, and editorial board participation.

The scale of current APC expenditure makes the redirect argument concrete rather than abstract. Major research institutions are routinely spending six- and seven-figure sums

annually in article processing charges (OpenAPC, 2024). That expenditure purchases per-article access rights to commercial platforms; redirected toward institutional infrastructure, it funds assets that remain under institutional control indefinitely. The practical cost of a single-institution OICR implementation (estimated at two full-time editorial staff and platform infrastructure) is recoverable within a small fraction of current APC budgets at research-intensive institutions.

For smaller institutions without APC expenditure to redeploy, the consortium model distributes costs across multiple partners, and national *Open Science* infrastructure programmes in several European countries already fund shared institutional publishing platforms. The publication expense is not solved by OICR but restructured: from a per-article commercial charge to a shared institutional infrastructure cost. Institutions already operate repositories, library platforms, and DOI registration infrastructure; in some cases, OICR simply adds an editorial coordination layer to existing infrastructure rather than requiring a greenfield build. That alignment with existing operational expenditure is itself a structural argument for feasibility.

The argument above operates at the level of a single research-intensive institution or consortium. At the sector

level, the scale at which this paper's normative claims are made, the financing logic requires extension. One emerging model is the direct public funding of non-commercial publication infrastructure, analogous to research grant funding. The *Leopoldina*'s 2025 discussion paper proposes precisely this: an application-based funding mechanism for DOA journals, with national pilot programmes and an international working group for co-financing models (Tautz et al., 2025). A fully realised OICR ecosystem at sector scale would require similar mechanisms: nationally or inter-institutionally pooled budgets, time-bounded transition funding to manage the parallel-systems period, and governance frameworks that are sustainable beyond the policy windows of individual institutions. Modelling this transition in detail exceeds the scope of the present argument, which is concerned with the epistemic and structural logic of OICR rather than with industrial policy design. What can be said is that the institutional financing argument above is a necessary but not sufficient condition: the sector-level question is identified here as an open problem requiring dedicated further work, rather than a solved problem being deferred.

One practical complication specific to the transition period also requires acknowledgment: running OICR alongside existing infrastructure means double costs and double reviewer

demand. Researchers and institutions would be asked to support two parallel systems simultaneously, and the rational response, to prioritise the system whose outputs carry current career weight, would slow adoption of OICR. This is a genuine structural obstacle, not merely a communication problem.

Positioning OICR

The preceding paragraphs have introduced the general idea of OICR. Before turning to implementation scenarios, it is worth placing the model explicitly against the above-mapped review landscape. Table 5.1 does this across four analytical clusters: structural conditions, process quality, cost, and equity consequences.

The crucial rows are the first two. Every other model in the table leaves the pre-publication gate intact and preserves publisher dependency at the same time. No existing reform proposal addresses both these issues while simultaneously including a quality assurance procedure. OICR does, and that is its specific contribution to the landscape this article has described.

The table also makes the primary trade-off visible, and the

Table 5.1: Peer review models compared.

	PR	OPR	PPPR	SCR	OICR
Structural					
Pre-pub gate addressed?	No	No	No	No	**Yes**
Publisher dependency broken?	No	No	No	No	**Yes**
Process Quality					
Reviewer plurality	Low	Low	High	Medium–High	High
Reviewer transparency	Low	High	High	High	Configurable
Publication speed	Slow	Slow	Fast	Medium-Fast	Medium
Cost					
Cost model	Per-article or subscription	Per-article or subscription	Per-article or subscription	Per-article or subscription	Fixed + amortising
Setup cost	None	None	None	None	High
Recurring cost	High	High	High	High	Medium
Equity[a]					
Access (reader)	Configurable	Configurable	Configurable	Configurable	High
Access (author)	Configurable	Configurable	Configurable	Configurable	High
Participation (reviewer)	Low	Low	Medium-High	Medium–High	Configurable
Career validation[b]	High	High	Medium-High	Medium–High	Low (growing)

[a] How the equity dimensions should be weighted against one another in a comprehensive justice assessment raises aggregation problems that exceed the scope of this article and are flagged for further development.

[b] The “Career validation” row uses current journal-based prestige metrics as its measure. The utility of this proxy is discussed in the text; it is retained here because it reflects the system against which all models are currently evaluated in practice, not because it is epistemically sound.

cost cluster requires careful reading. Under commercial peer review and its variants, the cost unit is either per-article or subscription-based: an institution either pays an APC for each submission and receives nothing that persists beyond that transaction, or constantly pays subscription fees for accessing material behind paywalls. Under OICR, the institution pays a large, fixed cost once to build the platform and then operates on a moderate lump-sum cost to cover the maintenance thereafter, largely independent on the number of published articles. These are categorically different cost models, not simply different cost levels. The setup cost is real and must be met before the model is viable; the ongoing cost, once the system is in place, is substantially lower than the sum of APC and subscription expenditure at any institution publishing at scale. For smaller institutions, the consortium model (see below) distributes the fixed cost across partners and brings the crossover point forward.

The career validation problem is transitional rather than structural. It is a function of where OICR currently sits in the adoption curve, not of anything intrinsic to the model, and it diminishes as consortium structures build field-level legitimacy over time. The equity rows reflect dimensions that are genuinely distinct: who can read, who can submit, who gets to evaluate; and OICR performs well on all three. The

aggregation question, of how these dimensions should be weighted against one another in an overall justice assessment, is a potential subject for future investigation.

What OICR does not claim is worth stating explicitly. It does not claim to resolve the prestige problem immediately. It does not claim to eliminate bias, only to make it auditable. It does not claim to be viable as a single-institution implementation for smaller universities without consortium support. These are honest constraints, and the limits here are addressable through the implementation architecture rather than requiring revision of the model's core logic.

The DOA outcome is structural rather than optional for one specific reason: the cost logic changes when the publishing entity is the producing institution. In the commercial model, publication costs are externalised to authors or readers because the publisher is a third party extracting rent from both sides of the transaction. When the institution publishes its own researchers' work, there is no third party to extract rent from, no APC mechanism that makes economic sense, and no reader paywall to justify. The financing model examined above confirms this: OICR's costs are absorbed as a function of the institution's existing research infrastructure, making DOA not a commitment but a structural default.

Implementation Scenarios

The OICR model as specified in Section 3 is a conceptual architecture, not a single prescribed implementation. Its structural logic is compatible with different institutional scales, governance arrangements, and field contexts. The two scenarios presented here are not alternatives to each other but points on a continuum: Scenario A represents the minimal viable implementation at a single institution, establishing what is required to make OICR function at all; Scenario B represents the normative target, in which the insularity risks of single-institution review are resolved through inter-institutional governance. Both scenarios are hypothetical and incidental, and intended to be analytically illustrative rather than prescriptive. Their purpose is to demonstrate that the model is not merely theoretically coherent but institutionally actionable under conditions that already exist in several

European research systems.

Scenario A: Single Institution

A mid-sized university with approximately 400 active research groups establishes an OICR platform as part of its library infrastructure, a natural extension of the institutional repository it already operates for preprints and theses. The platform is maintained by two full-time editorial staff and a rotating editorial board drawn from faculty. Manuscripts are submitted by any affiliated researcher. A default reviewer pool is drawn from the institution's own faculty and doctoral researchers, supplemented by an opt-in network of external collaborators at partner institutions.

The review window runs for 14 days. A minimum of five substantive registered comments is required before the manuscript advances to editorial collation. The publication format is an institutional open-access journal, indexed in DOAJ and registered with *Crossref* for DOI assignment.

A mid-sized research institution routinely paying six- and seven-figure sums annually in APCs (OpenAPC, 2024) generates no institutional assets from that expenditure: no retained

copyright, no infrastructure, no editorial capacity. The same sum directed toward OICR, covering two full-time editorial staff, platform infrastructure, and moderation, builds local institutional capacity, retains intellectual property, and keeps the publication process under academic rather than commercial governance. The money is not saved; it is redirected.

Scenario A is presented as a minimal viable implementation, not the target state of the model. Before full implementation, a two-year pilot phase is advisable. The pilot would operate OICR alongside existing publication routes, rather than replacing them, and focus on three measurement objectives:

Reviewer Pool Viability – Minimum: 80 active reviewers across at least four disciplinary subfields, with no single subfield contributing more than 40% of reviews;

Publication Cycle Time – Target: median 6 weeks from submission to open review closure, compared to a median of 17 weeks for conventional peer review at comparable journals; and

Author and Reviewer Satisfaction – Assessed by structured post-publication survey, with benchmarking against the Select Crowd Review outcomes (van Gemeren & List,

2021).

Peer Community In (PCI) provides the most instructive operational precedent: as a scholar-led system for the peer review and recommendation of preprints across disciplinary communities, it demonstrates that community-governed, non-commercial review can operate beyond isolated experiments and outside publisher-controlled journal infrastructures (Guillemaud, Facon & Bourguet, 2019).

Scenario B: Inter-Institutional Consortium

Five institutions with strong overlapping research profiles in, for example, science and technology studies (STS) establish a shared OICR platform for their field. The platform is governed by a rotating editorial council with representation from all five institutions, and the reviewer pool spans their combined research communities alongside an extended network of credentialed external reviewers who have opted in. The platform operates as the primary publication venue for all five institutions' STS research output, with a target of 80–120 manuscripts per year.

The governance of the inter-institutional consortium re-

quires specification at four levels:

Decisional Authority – The rotating editorial council holds a casting vote on contested publication decisions, with tie-breaking resolved by a standing arbitration panel drawn from outside the member institutions;

Conflict of Interest Management – Reviewers may not evaluate submissions from their own institution, enforced by the platform's submission system;

Withdrawal and Continuity An institution wishing to withdraw must give twelve months' notice and maintain read-access to its archived outputs in perpetuity, consistent with *POSI*'s "living will" principle (POSI Adopters, 2025); and

Reviewer Distribution – Each institution commits to a minimum annual review contribution proportional to its submission volume, audited by the editorial council annually.

These specifications draw on governance models developed for federated open infrastructure organisations, including the *OPERAS-D Landscape Study on Open Access Publishing* (OPERAS Consortium, 2017), and on the design principle of *nested enterprises* (Hess & Ostrom, 2007). Still, they only provide an initial theoretical suggestion, and require practical testing

and experiential adjustment.

The initial review window for submitted manuscripts runs for 21 days. Anonymity is configurable per submission: the default is open, but authors may request anonymous reviewing for early-career or otherwise vulnerable researchers. The publication format is a field-level open-access journal with its own ISSN, indexed across major academic databases.

This scenario directly addresses the insularity risk of *Scenario A*. The multi-institutional reviewer community provides genuine external perspective while remaining structurally independent of commercial publishers, and governance costs are distributed across five institutions rather than borne by one. For junior researchers at any of the five institutions, the platform offers a publication pathway that is both credible, in that it is peer-reviewed by a genuine field community, and structurally supportive, carrying no APC barrier and offering configurable anonymity for reviewer protection. Where Scenario A demonstrates that OICR is institutionally actionable, Scenario B demonstrates that it is epistemically viable as a field-level publication venue.

Unresolved Challenges and Limitations

The preceding sections have outlined OICR's design logic, positioned it against the existing landscape, and illustrated its conditions of viability through two implementation scenarios. What follows examines the model's limitations with the same directness. The challenges documented here are not objections to be deflected but structural features of the reform landscape that any honest assessment of the model must account for. They are organised by a distinction that runs through all of them: some are resolvable through design choices and empirical iteration, and will diminish as the model matures; others depend on changes in academic culture and assessment practice that lie outside the model's own parameters to produce.

Prestige Problem

As previously discussed, academic career systems run on journal prestige, but journal prestige is a poor proxy for research quality, and OICR's consortium model creates the structural conditions under which a field-level publication venue can accrete legitimacy over time. But this partial mitigation cannot resolve everything.

It does not resolve the early-career bind. Researchers with the most to gain from structural reform face the highest career risk from acting on it. The population most harmed by the current system, those without the institutional affiliation or publication record that grants access to prestigious journals, those paying APCs they cannot comfortably afford, those whose work is desk-rejected because it is methodologically unfamiliar to a commercial editorial board, that is the population least able to absorb the transition cost of publishing in an unrecognized venue. This asymmetry cannot be designed away. It is a structural feature of any reform that requires early adopters to bear costs that later adopters will not.

OICR does also not resolve the metric dependency. Ac-

knowledging that the impact factor is a bad proxy does not dissolve its institutional power. As long as hiring committees use journal tier as a shorthand for quality, a practice enforced at the level of institutional norms, not individual judgment, OICR publications will be discounted regardless of their actual quality (DORA, 2012; Hicks et al., 2015). The dysfunction is not in OICR's design but in the assessment apparatus the model is trying to reform from outside, and the model cannot reform it unilaterally.

What would change this picture is external: adoption by research assessment frameworks as a recognised output type. Both DORA (2012) and the *Coalition on Advancing Research Assessment* (CoARA, 2022; Arentoft et al., 2022) provide institutional architecture for recognising non-traditional outputs in promotion and hiring criteria, and CoARA has now over 700 signatories across European research systems. Several DORA-aligned institutions already count OPR contributions toward assessment; extending this recognition to OICR outputs is a tractable policy step. *Plan S* successor frameworks could further accelerate adoption by mandating institutional publication infrastructure as a condition of funder compliance. None of this is guaranteed, and none of it is within OICR's own parameters to produce.

The honest statement of the limit is the one the model's advocates are least likely to volunteer: OICR is most viable in the transition period as a supplementary output alongside conventionally published work. The case for it as a full substitute for commercial journal publication depends on changes in assessment culture that will not follow automatically from the model's adoption.

Two concrete mechanisms are available within the current infrastructure to begin constructing reviewer recognition from day one, without waiting for assessment culture to change. First, OICR platforms should adopt the *Contributor Roles Taxonomy* (CRediT, ANSI/NISO Z39.104-2022), a standardised vocabulary for research contributions (Brand et al., 2015; NISO, 2022), which includes review and editing as a named, citable role alongside authorship. Recording review contributions in CRediT-structured metadata makes them machine-readable, persistently linked to the contributor, and harvestable by institutional reporting systems. Second, ORCID's reviewer recognition infrastructure (Hanson et al., 2016; Haak, Meadows & Brown, 2018), which is already implemented across multiple major platforms, allows peer review contributions to appear as verified, citable items on a researcher's public scholarly profile, independent of any single journal or publisher. Together, these mechanisms

make review labour formally visible in the scholarly record from the moment of contribution. They do not dissolve the prestige bind identified above, but they begin to construct the parallel recognition infrastructure without which any alternative publication venue remains career-irrelevant for those who can least afford the risk.

What this transition does not yet provide is a concrete answer to the question a hiring committee faces in the near term: how to read an OICR output against a candidate who publishes in established venues. The crowd review record, the CRediT attribution trail, and the public review thread are epistemically richer than a journal impact factor, but they are not yet legible within the institutional assessment apparatus that governs career decisions. This is not a design flaw that iteration will resolve; it is a dependency on a cultural shift in research assessment that lies outside the model's own parameters to produce. It is identified here as genuinely open rather than merely transitional.

New Inequality Risk

OICR requires institutional capacity that is not evenly distributed. A well-resourced research university can just decide

to establish and sustain a functioning OICR platform; a small teaching institution, a research group in a low-income country, or an independent scholar cannot. If OICR were adopted broadly by well-resourced institutions while under-resourced ones remained dependent on commercial publishers, the reform intended as democratization would produce a new axis of institutional inequality: wealthier institutions publishing under their own infrastructure, generating their own prestige economies, while others continue paying APCs to commercial publishers that now face reduced competitive pressure from their most resource-rich customers.

The parallel with large language model development is structurally instructive. The democratizing framing of both technologies tends to obscure a resource requirement that, in practice, reproduces the hierarchy it claims to dismantle. In both cases, the infrastructure threshold is high enough that only well-capitalised actors can build it, and the *open access* framing does not change who controls the productive apparatus. OICR is not immune to this dynamic, and the analogy is worth naming because it is already playing out in adjacent reform efforts.

The inter-institutional consortium model is not merely an alternative to the standalone institutional platform; it

is the normative goal toward which OICR implementation should aim. A standalone *Harvard* or *Max Planck* OICR would reproduce prestige concentration by relocating it from commercial publishers to elite institutions rather than dissolving it. Shared infrastructure backed by national *Open Science* consortia, such as those already funded under *Plan S* frameworks in several European systems, is the structural form that makes OICR a democratizing rather than a re-hierarchizing intervention. This requires that consortium governance explicitly include under-resourced institutions as partners rather than as peripheral affiliates, and that national subsidy structures cover the setup cost differential for institutions that cannot meet the infrastructure threshold independently (Shearer et al., 2020).

Moderation Problem

Open comment windows create moderation challenges that closed review processes do not face: spam, automated commentary, coordinated criticism campaigns, and the weaponisation of review for competitive purposes. SCR's experience in chemistry suggests that the social visibility of comments substantially self-regulates destructive behaviour (van Gemeren & List, 2021), but chemistry is a relatively

coherent disciplinary community with strong shared norms. In more contested fields, including science and technology studies, education research, climate science, and public health, the moderation challenge will be more severe and the editorial capacity required to manage it proportionally more resource-intensive.

Any open review system operating in 2026 faces a challenge that SCR's chemistry implementation in 2016 did not: the possibility of automated, plausible-sounding commentary generated at scale by large language models. An open registration window with a low participation barrier is also a low barrier for synthetic comments that are formally coherent but substantively empty or strategically placed. This is not a marginal risk; it is a structural new problem for any open review architecture, and moderation capacity must be designed to account for it rather than assumed away.

The coordination attack problem is related but distinct. Organised manipulation of peer review processes, including solicitation of favourable reviewers, citation rings, and strategic negative reviewing, is documented in CPR (Biagioli and Lippman, 2020). Open comment windows make the attack surface larger even if the social visibility of public comments increases the cost of such attacks. The visibility argument

from van Gemeren and List (2021) does not make the risk negligible.

A further operational challenge is critical mass. OICR requires a sufficient reviewer pool to meet the minimum comment threshold before editorial collation can proceed. In small or highly specialised fields, or in the early stages of a single-institution implementation, this threshold may routinely not be met, stalling the process before it produces any output. The consortium model partially addresses this by enlarging the available reviewer community, but minimum viable pool size is an empirical question that pilot implementations will need to resolve before the model can be reliably deployed at field scale.

A distinct and arguably more structurally significant risk operates through well-intentioned rather than bad-faith participation. Open deliberative systems are susceptible to documented social dynamics that produce premature convergence: anchoring on early comments, social pressure toward visible consensus, and the quiet withdrawal of minority methodological positions in the face of emerging agreement. These dynamics are not produced by malicious actors; they are produced by the openness that is also the model's main epistemic virtue. The SCR literature documents the positive

effects of social visibility on review quality, but the same visibility that discourages careless reviewing may also discourage the sustained defence of heterodox positions. Mitigation here is architectural: randomising the order in which reviews become visible to subsequent reviewers, weighting the review summary toward dissenting positions rather than averaging toward consensus, and building explicit invitation for methodological minority views into the moderation protocol.

Discoverability and Coordination

The implementation scenarios described above address OICR at the scale of a single institution or a defined inter-institutional consortium. A different challenge emerges at the scale of a broader ecosystem: if OICR is adopted independently by many institutions across disciplines and national contexts, each managing its own review process and publication infrastructure, the result risks being a set of epistemically valid but practically invisible outputs, discoverable in principle but incoherent in practice. This is the fractalisation problem, and it is not resolved by any of the infrastructure choices described earlier.

The individual components of a non-commercial metadata

stack, namely DOI registration, *OpenAlex* deposit, and DOAJ indexing, are necessary conditions for discoverability. They are not sufficient conditions for coherence. A researcher in a given field needs to be able to find, compare, and contextualise OICR outputs across institutions without navigating dozens of separate platforms with inconsistent metadata schemas, variable quality signals, and no shared identity. The commercial publishing system, for all its structural failures, provides this coherence as a byproduct of its consolidation. A decentralised alternative must provide it deliberately.

What this requires is not a central authority, which would reproduce the dependency the model is designed to dissolve, but a coordination layer: a shared agreement on metadata standards, quality signalling conventions, and harvesting protocols that allows independent OICR nodes to be legible to each other and to the broader scholarly record. The closest operational model for this kind of federated coordination in scholarly infrastructure is OPERAS, the European research infrastructure for open scholarly communication in the social sciences and humanities, which manages interoperability across distributed national platforms without centralising editorial control (Maryl et al., 2020). Whether an equivalent coordination body for OICR emerges from within research institutions, from national *Open Science* frameworks, or from

an extension of existing infrastructure consortia is an open question. What is clear is that it will not emerge by default. Decentralisation without coordination produces fragmentation, and fragmentation is not an improvement on the problem it was meant to solve.

This challenge is identified here as the primary unresolved structural limitation of OICR at sector scale. Addressing it is a prerequisite for the model's long-term viability beyond the institutional and consortial scenarios examined in this paper.

Implicit Epistemic Frameworks

The most fundamental critique of any crowd-review model applies equally to OICR: pluralizing voices does not automatically pluralize epistemic frameworks. A manuscript that structurally departs from the dominant methodological assumptions of a field will be evaluated by more people, but those people may share the same implicit evaluative criteria. Crowd review pluralizes who assesses but does not guarantee pluralization of how assessment happens.

The relevant concept is "hermeneutical injustice" in the sense developed by Fricker (2007): the wrong done to a

knower whose contribution cannot be adequately understood or evaluated because the conceptual resources needed to do so are absent from the evaluating community. In peer review, this manifests when a manuscript employs methods, epistemological assumptions, or theoretical frameworks that fall outside the shared vocabulary of the available reviewer pool. The manuscript is not rejected or dismissed because it is wrong but because it is illegible within the evaluative framework the reviewers bring to it. CPR concentrates this risk in the hands of one to three individuals selected by an editor under commercial constraints. OICR distributes it across a larger community, but if that community is drawn from the same disciplinary formation, the illegibility problem is reproduced at greater scale rather than resolved.

Dotson's (2012) extension of this framework sharpens the point. Hermeneutical injustice is not merely a gap in available conceptual resources. It can reflect an active refusal on the part of dominant knowers to adopt epistemic tools developed outside their framework. Pohlhaus (2012) calls this "willful hermeneutical ignorance." A larger reviewer pool drawn from the same paradigm does not mitigate this pattern; where paradigm protection is operating, it may amplify it.

The precision of the Fricker mapping matters here be-

cause the design responses are different depending on which mechanism is at work. Testimonial injustice, a credibility deficit assigned to a speaker, calls for anonymization to remove the credibility cue. Hermeneutical injustice calls for diversification of the evaluating community to introduce the absent conceptual resources. OICR's configurability on anonymization addresses the testimonial dimension; the consortium model's cross-institutional scope addresses the hermeneutical dimension, partially.

The sharpest version of this problem concerns not the average submission but the paradigm-critical one: work that challenges the evaluative frameworks of its own audience. Open crowd review within a disciplinary community may be epistemically well-suited to assessing work that shares the community's methodological commitments and is well-suited to assessing quality within them. It is structurally less well-suited to assessing work that disputes those commitments themselves, because the crowd whose consensus constitutes the quality signal is also the community whose frameworks are under challenge. This is not a problem OICR introduces; it is a problem it inherits from peer review in general, and one that the bias mitigation mechanisms discussed above can only partially address. It is noted here because the openness of the crowd mechanism makes the problem more

visible, not less: where classical anonymous review obscures whose frameworks are doing the evaluative work, open crowd review makes it legible, which is an improvement, but not a resolution.

This is not an argument against OICR. It is an argument about what OICR can and cannot do. Two features of the model create partial mitigation. First, the public visibility of all comments means that a dismissive or uncomprehending review is itself visible to other participants, who may recognise the illegibility dynamic and respond to it. This form of collective epistemic correction is structurally unavailable in CPR, where deliberations are closed. Second, an open reviewer pool increases the possibility of methodological diversity, particularly where the participating individuals represent different disciplinary or national research traditions. Neither feature guarantees pluralisation of epistemic frameworks, but both create conditions under which hermeneutical injustice is more likely to be named and contested rather than silently enacted. That is a structural improvement, even if it falls short of a structural solution.

Conclusion

The problem this paper has addressed is not that peer review is imperfect. Every quality assurance mechanism is imperfect. The problem is that the infrastructure governing scientific quality assurance is organised around interests that are not epistemic, and that the reforms developed in response have, with few exceptions, accepted this infrastructure as a given. The ceiling identified across every existing procedure-level reform model is not a coincidence but a structural consequence of leaving the underlying infrastructure untouched. Improving what happens inside a system whose organising logic works against the goals of science is not the same as addressing the system. That distinction is what the preceding sections have attempted to establish, and it is the distinction on which the argument for OICR rests.

OICR is a proposal to relocate the gatekeeping decision from commercial infrastructure to the institution that produces the research. It is not a claim that institutions are more trustworthy than publishers by nature, or that crowd review eliminates bias, or that the prestige problem dissolves on contact with a better model. The unresolved challenges documented above are genuine: the early-career bind is real, the new inequality risk is real, the moderation problem in contested fields is real, and the hermeneutical limits of crowd review are real as well. What OICR claims is narrower and more defensible than a solution to these problems: It claims that the locus of the gatekeeping decision matters, that institutional anchoring is structurally preferable to commercial anchoring for epistemic purposes, and that DOA publication is a structural consequence of that relocation rather than an optional feature added to make the model more appealing. Within those bounds, one originality claim stands: no existing reform proposal (at least none known to the author) addresses both the pre-publication gate and publisher dependency simultaneously. Existing non-commercial publication models address publisher dependency in the distribution sense without reforming the review procedure; existing review reform models address procedure without relocating the gatekeeping authority. OICR addresses both by design, and that is the specific contribution this paper makes to the reform

landscape.

The model proposed here is, in the terms introduced earlier, a response to enclosure: an attempt to organise a commons that commercial infrastructure has progressively captured back under conditions of collective rather than proprietary governance. Whether it constitutes a durable commons governance arrangement in the Hess & Ostrom (2007) sense, with clear boundaries, matched rules, conflict resolution mechanisms, and recognised authority, is an empirical question that implementation will need to answer. The design conditions examined above are the preconditions for asking it.

One last clarification is owed to the reader. This work does not constitute a fully specified blueprint for replacing the existing publishing system at sector scale. It is a structural argument about the locus of gatekeeping authority, and an implementation proposal for institutions and consortia operating within the policy window that current conditions provide. A complete transition analysis, addressing sector-level financing, workforce transition pathways, long-term capital formation, and macro-level infrastructure continuity, lies beyond its scope and is explicitly identified as a necessary programme of further work. The argument here is structurally ambitious within a bounded domain: the epistemic

governance of scholarly quality assurance and the institutional conditions under which non-commercial alternatives to commercial gatekeeping are viable. It makes no claim to have solved the political economy of a global industry. It claims only to have shown that the epistemic problem is structural, that a structural response is architecturally possible, and that the conditions for implementing that response at the scale of a single institution or consortium are more favourable than the inertia of the present system suggests.

A structural proposal is not a solution until it has been tested against practice. The two presented scenarios are analytically illustrative, not prescriptive, and the empirical questions the model raises cannot be answered from the armchair: minimum viable reviewer pool size, moderation capacity requirements, the timeline of prestige accretion, the conditions under which the consortium model becomes self-sustaining, the optimal configuration of anonymity and comment publication parameters; these require pilot implementations, field-level trials, and honest assessment of failure modes as they emerge rather than as they are anticipated. The policy conditions for that work are present. The antitrust litigation against commercial publishing infrastructure, filed in 2024 and dismissed on procedural grounds in January 2026 without exonerating publishers on the merits, the consolidation

of *Plan S* open access mandates across European funding bodies, and growing institutional resistance to APC inflation have together created a window in which structural alternatives are genuinely actionable rather than merely aspirational. The peer review reform literature is rich in empirical critiques of the *status quo* and thin in structural alternatives that address publisher dependency directly. What this paper has attempted is the prior step: to establish that the problem is structural, that the existing reform landscape does not address it at its root, and that a model addressed to the root is both theoretically coherent and institutionally actionable. The reform imagination has remained smaller than the critique demands. OICR is a proposal built at the scale of the actual problem.

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This monograph analyses the structural conditions under which academic quality control can operate independently of commercial publishing incentives. Drawing on open-access case studies, Rolfes develops the Open In-House Crowd Review (OICR) framework as a replicable institutional model for transparent, accountable peer evaluation. Essential reading for scholars of science policy, scholarly communication, and epistemic justice.

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