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Hegemonic articulation, paradigm incommensurability, and the discursive exclusion of Humanities and Social Science Research in the South African Open Science Policy 2026

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Abstract

The South African Open Science Policy 2026, published by the Department of Science, Technology, and Innovation, is formally committed to the democratisation of knowledge and epistemic equity. Yet a critical reading reveals that the Policy reproduces, through its own discursive architecture, the epistemological hierarchy it claims to dismantle. This article analyses the Policy as a discursive text, drawing on Laclau and Mouffe's discourse theory and Foucault's concept of the regime of truth to explain how a policy committed to democratisation can simultaneously enact epistemic exclusion. The primary argument is threefold. First, the Policy constructs "Open Science" as a nodal point around which a chain of equivalences is built from STEM-derived norms, including reproducibility, FAIR data principles, journal metrics, and natural science models of citizen science. Second, we argue that this hegemonic articulation reconstitutes a hidden antagonism between positivist and interpretivist epistemological traditions, reawakening a binary opposition that the paradigm wars of the twentieth century had ostensibly resolved. Third, the incommensurability between these traditions means that applying STEM-derived criteria universally to all research constitutes not evaluation but category error institutionalised as governance. Six dimensions of epistemological closure are examined: the reproducibility criterion, the FAIR data mandate, the marginalisation of CARE principles, the protective rather than epistemic treatment of indigenous knowledge, the structural absence of humanistic output forms, and the natural-science-centred design of the citizen science framework and its consequences for participatory research traditions. Five policy interventions are proposed through which the Policy's stated commitment to epistemic equity could be made operational across the full disciplinary spectrum.

Introduction

The South African Open Science Policy 2026 (Department of Science, Technology and Innovation, 2026), hereafter referred to as the Policy, represents an effort to align South Africa's publicly funded research system with global trends towards the democratisation of knowledge. Its seven policy intents encompass open access, open data,

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infrastructure, citizen science, rewards and incentives, education and skills, and policy and regulatory reform. The Policy's stated vision is to promote equality of opportunity within South Africa's National System of Innovation and to democratise knowledge across society. In the South African science policy, the National System of Innovation refers to the set of interacting organisations and policy arrangements through which new knowledge is produced, acquired, diffused, and put to use in pursuit of individual and collective goals (Lundvall, 2016; Department of Science and Technology, 2019).

The Policy must also be situated within the institutional architecture of South African research governance, which readers beyond the country may find unfamiliar. Three national departments share responsibility for the knowledge system. The Department of Science, Technology, and Innovation (DSTI) leads science and innovation policy and stewards the National System of Innovation. The Department of Higher Education and Training (DHET) oversees universities and administers the Research Outputs Policy, the subsidy framework through which accredited journal articles, books, and conference proceedings are rewarded (Department of Higher Education and Training, 2015). The Department of Sport, Arts and Culture holds custodianship of the national archives, museums, and heritage institutions in which much humanities research material resides. The Policy is a DSTI instrument, and its drafting therefore proceeded from a mandate centred on science, technology, and innovation rather than on higher education or heritage. This institutional location matters analytically. DHET's subsidy framework already recognises books and book chapters as fundable research outputs, and the heritage sector operates under distinct legislation and curatorial norms. Closer articulation between the three departments might have tempered the Policy's STEM-centric assumptions. Its absence helps to explain how a whole-of-system policy came to be written largely in the idiom of a single departmental constituency.

Nor did the Policy emerge in a vacuum. The White Paper on Science and Technology first committed South Africa to a National System of Innovation (Department of Arts, Culture, Science and Technology, 1996). The subsequent White Paper on Science, Technology, and Innovation renewed that framework and endorsed open science explicitly (Department of Science and Technology, 2019). The National Research Foundation has required open access deposit of publications arising from its funded research since 2015 (National Research Foundation, 2015). Internationally, the UNESCO Recommendation on Open Science created an explicit expectation that member states would adopt national open science frameworks (UNESCO, 2021). The Policy therefore responds to identifiable problems: journal paywalls that place publicly funded findings beyond public reach, fragmented data infrastructure, uneven institutional repository capacity, and mounting global momentum towards openness. Its existence is neither arbitrary nor unwelcome. The argument developed here concerns the epistemological assumptions through which these legitimate objectives are operationalised, and the disciplinary consequences that follow from them.

The norms through which the Policy operationalises openness also have specific provenances, largely in the Global North. Reproducibility acquired its contemporary policy salience through the replication crisis in experimental psychology and biomedicine (Open Science Collaboration, 2015). The FAIR principles emerged from data-intensive life science communities (Wilkinson et al., 2016). Journal metrics, and the citation databases that operationalise them, were built around the publishing ecology of the natural sciences (Larivière, Haustein, and Mongeon, 2015). Scholarship examining open science from the Global South has shown that such globalised instruments, imported without contextual translation, can impede rather than advance local projects of epistemic justice (Chan et al., 2019). The fiscal landscape of South African research sharpens this dynamic. Public research investment is prioritised through urgent national crises, including unemployment, energy insecurity, and public health, as the national Decadal Plan makes explicit (Department of Science and Innovation, 2022). Data-intensive STEM research is readily framed as delivering immediate, quantifiable solutions that justify public expenditure. Humanities and social science research addresses the structural, historical, and qualitative dimensions of the same crises, yet its contributions resist expression in government performance indicators. A policy environment calibrated to quantifiable returns, therefore, inherits a tilt towards STEM before any definitional choice is made. The analysis that follows shows how that tilt is subsequently written into the Policy's own language.

An even-handed reading must also acknowledge what the Policy does well. It commits the state to open access for publicly funded research and identifies article processing charges as a barrier requiring national intervention. It endorses the San Francisco Declaration on Research Assessment and calls for qualitative and non-traditional

indicators of research value. It names the CARE Principles alongside FAIR and TRUST among its guiding principles, a pairing that few national open science policies have yet attempted. It cautions that open science should not disadvantage credible single-author research, affirms open science as an enabler of Indigenous Knowledge Systems, and commits to shared national data infrastructure. These are substantive achievements, and the critique developed in this article presupposes their value. The question pursued is narrower: whether the discursive architecture through which these commitments are operationalised can deliver them equitably across the disciplinary spectrum.

Notwithstanding these commitments, a critical reading of the Policy reveals epistemological, methodological, and structural blind spots that disadvantage humanities and social science research. The Policy renders humanities and social science research invisible by operating on assumptions drawn largely from the natural and biomedical sciences, rather than excluding it by explicit design. When research policy universalises STEM-derived epistemologies, the result is a form of epistemic injustice that marginalises humanities inquiry as inferior or illegitimate scholarship (Penders, Holbrook, and De Rijcke, 2019). The more precise characterisation is that humanities inquiry is positioned as epistemologically different yet evaluated as though it were deficient. Understanding how this invisibility is produced, and why it is structural rather than incidental, requires analysis of how policy language constitutes, rather than merely describes, social reality.

The object of analysis is the Policy as a discursive text: a document that actively constitutes an open science system rather than merely describing one, installing particular meanings, legitimating certain practices, and foreclosing specific alternatives through its own language. Following Howarth and Stavrakakis (2000), discourse analysis in this tradition treats policy texts as sites of hegemonic articulation where the organisation of meaning around nodal points produces social effects that exceed the intentions of any individual author, rather than as transparent windows onto institutional intentions. Bacchi (2009) similarly argues that policy documents are constitutive texts that construct the very problems they claim to address, a position consistent with the discourse-theoretical reading adopted here. Selected direct quotations from the Policy are used as primary discursive evidence at critical junctures: they are the moments in which the hegemonic articulation of "Open Science" is most legibly inscribed in the Policy's own language, and it is through close reading of these moments that the hidden antagonism and constitutive exclusions are demonstrated rather than asserted. This reflects a limited engagement with the systemic logic underpinning South Africa's National System of Innovation (NSI) approach (see Department of Science and Technology, 2019 White Paper on Science and Technology), and introduces inconsistency among policy instruments.

Discourse theory, regimes of truth and paradigm incommensurability

This article draws on three theoretical traditions to explain how a policy committed to democratisation can simultaneously reproduce epistemic exclusion: discourse theory, as developed by Ernesto Laclau and Mouffe's (1985, Laclau and Mouffe, 2001); Michel Foucault's (1981) regimes of truth; and Thomas Kuhn's (1962) incommensurability thesis. The regimes of truth and incommensurability thesis serve as analytical tools for examining how knowledge claims are authorised within the Policy.

In terms of Laclau and Mouffe's (1985, p. 112) discourse theory, meaning is never finally fixed; it is only partially stabilised through processes of hegemonic articulation, through which particular ideas come to appear as the necessary content of a concept while alternatives are foreclosed. The analytical unit through which this partial stabilisation operates is the nodal point, conceptualised as a privileged discursive point around which other elements are organised, and meaning is partially fixed (Laclau and Mouffe, 1985, pp. 112–114). In the Policy, "open science" functions as such a nodal point, anchoring a chain of equivalences in which reproducibility, FAIR data principles, journal metrics, and natural science models of citizen science are articulated as its natural and necessary content (Laclau and Mouffe, 1985). Excluded from this chain is what Mouffe (2000, p. 12) terms the 'constitutive outside': the antagonistic boundary that defines a discursive formation by marking what it is not. Qualitative, interpretive, Ubuntu-informed, archival, and participatory action research traditions are not explicitly positioned as the other of open science; they are simply absent from its chain of equivalences, and that absence is a condition of possibility for the Policy's discursive coherence.

Because this vocabulary originates in political theory, its analytical use is stated in plain terms at the outset. A nodal point is the anchoring idea around which a policy organises meaning. A chain of equivalences is the cluster of practices treated as belonging naturally to that idea. Hegemonic articulation names the process through which one version of an idea comes to appear as the only possible version. Dislocation refers to moments when that appearance breaks down, and rearticulation to the work of assembling meaning differently. The technical terms are retained where precision requires them and rendered in ordinary language elsewhere.

Foucault's (1981) concept of the regime of truth holds that particular historical formations authorise some statements as true while disqualifying others, not because the latter are false, but because they fall outside the horizon of what the dominant discourse can recognise as legitimate knowledge (Foucault, 1981, p. 131). The Policy's authors do not consciously exclude humanities and social science research; rather, they operate within a global regime of truth in which STEM-derived norms are experienced not as one paradigm among others, but as the form that rigorous research itself is assumed to take. Hook (2001) demonstrates that this dynamic is distinctively postcolonial: colonial knowledge hierarchies are reproduced not through intention, but through the assumptions sedimented in the language of governance. The Policy's silences are therefore readable as effects of this regime.

The concept of paradigm incommensurability holds that competing paradigms cannot be fully translated into one another's terms because they do not share the same standards of evidence, the same definitions of worthwhile problems, or the same criteria for adequate solutions (Kuhn, 1962, p. 109). The paradigm wars of the latter twentieth century brought this incommensurability into view as a contest between positivist and interpretivist epistemological traditions (Guba and Lincoln, 1994; Bryman, 2016). Their resolution was only partial: epistemological pluralism was acknowledged in principle through the work of Lincoln and Guba (1985) but this acknowledgement was never institutionalised in research governance frameworks. The hegemonic articulation of "science" as necessarily positivist was discursively destabilised without being structurally displaced (Laclau and Mouffe, 1985). The Policy represents a resuturing of that discourse: the antagonism made visible by the paradigm wars is concealed again through a new hegemonic articulation in the register of research governance and open science infrastructure. The nodal point has shifted from "science" to "open science," but the chain of equivalences it anchors reproduces a similar constitutive exclusion. The spectre of the paradigm wars re-emerges as a hidden antagonism encoded in policy language rather than as an explicit argument.

The article examines six interrelated dimensions of epistemological closure through this combined analytical lens. The first three concern substantive incompatibilities: the treatment of reproducibility as a universal quality criterion, the inadequacy of FAIR data principles for qualitative and humanistic research, including the specific consequences of FAIR-compliant digitisation for colonial archival collections, and the operationalisation gap between CARE principles and the Policy's practical architecture. The remaining three concern structural invisibilities: the positioning of indigenous knowledge systems as sensitive data requiring protection rather than as generative epistemological alternatives, the marginalisation of humanistic output forms within the rewards and metrics architecture, and the institutional marginalisation of participatory action research through the natural-science-centred design of the citizen science framework. Selected direct policy quotations are deployed as discursive evidence at critical junctures in the analysis.

The foundational definition: two indicators of epistemological closure

The Policy's first moment of epistemological closure appears in its foundational definition. In its terminology, the Policy states:

> "Open Science is defined as research and development that is collaborative, transparent and reproducible and whose outputs are publicly available." (Department of Science, Technology and Innovation, 2026, p. 3)

Two terms in this definition carry the full weight of what follows: "reproducible" and "collaborative." Each embeds a paradigm-specific assumption that, when elevated to definitional status, constitutes humanities and social

science research as falling outside the scope of what the Policy recognises as open science. They are examined in turn.

Reproducibility as a paradigm-specific criterion

By installing "reproducible" as a constitutive element of Open Science's definition, the Policy sutures the nodal point to one side of the incommensurability that the paradigm wars made visible. Reproducibility is not a neutral quality criterion, nor is it universally applicable (Leonelli, 2018). It is a paradigmatic commitment that belongs specifically to positivist epistemological traditions, whose validity is conditional upon the epistemological orientation of the research in question.

Penders et al. (2019) observe that humanities scholars operate within paradigms epistemologically distinct from the natural sciences, incommensurable with them in Kuhn's (1962) precise sense: they do not share the same standards, problems, or criteria for successful resolution. Applying reproducibility as a normative standard to interpretive, hermeneutic, or constructivist research is a category error, not a demanding standard that such research fails to meet. It measures research against criteria that are epistemologically inapplicable to it.

Patton (2025) notes that whilst replication may be appropriate within positivist frameworks, it holds no equivalent epistemological warrant within constructivist and critical research paradigms. A scoping review published in Royal Society Open Science found that research on reproducibility has been concentrated in the health and behavioural sciences, while other fields, including the humanities and qualitative research, appear less engaged with or regard reproducibility as less directly applicable (Dudda et al., 2025). The consequences for South African humanities scholars are material. A policy that institutionalises reproducibility as a condition of open science participation creates incentive structures in which humanities' scholarship will, by definition, appear to underperform, not because it is deficient but because it is evaluated by instruments calibrated for an entirely different epistemological tradition. The Policy offers no alternative validity criterion, no acknowledgement of interpretive rigour, reflexivity, or transferability, and no recognition that these constitute legitimate quality criteria in their own right.

Collaboration as a disciplinary norm mistaken for a universal principle

The word "collaborative" installs a second STEM-derived norm as a constitutive element of open science. The consequences are definitional, not merely rhetorical: research that is not collaborative falls, by the Policy's own terms, outside the boundary of open science. The Policy itself qualifies this reading: Section 3.1 cautions that implementation 'should not, however, be to the disadvantage of credible, single author research' (Department of Science, Technology and Innovation, 2026, p. 11). The analysis below takes that caveat seriously and asks whether the operational architecture honours it.

A comparison with the major international frameworks reveals that this formulation is an outlier. The UNESCO Recommendation on Open Science (UNESCO, 2021, p. 7) defines open science as "an inclusive construct that combines various movements and practices aiming to make multilingual scientific knowledge openly available, accessible and reusable for everyone, to increase scientific collaborations and sharing of information for the benefits of science and society." Crucially, UNESCO treats collaboration as a beneficial systemic outcome, something open science increases rather than a condition individual research must satisfy. The OECD similarly defines open science as "efforts to make the output of publicly funded research more widely accessible in digital format", with no reference to collaboration as a constitutive element (OECD, 2015, p. 7). The South African definition rearticulates this systemic aspiration as a definitional criterion. What UNESCO and the OECD frame as a beneficial outcome that open science fosters, namely collaboration, the South African formulation repositions as constitutive of open science itself, such that research must be collaborative to qualify as open. The shift is subtle but consequential, and it finds no warrant in the international frameworks from which the Policy otherwise draws.

The consequence is that disciplines in which sole authorship is the epistemological norm are rendered definitionally peripheral. In legal scholarship, for example, sole authorship is not an incidental preference, but a disciplinary convention

tied to the nature of legal argument itself, which proceeds through individual interpretive reasoning rather than team-based data collection. More specifically, doctrinal legal scholarship is assessed through forms of rigour internal to the discipline, including fidelity to primary legal sources, methodological explicitness, and interpretive coherence, rather than reproducibility in the positivist sense (Bodig, 2015, pp. 43–44; Van Gestel, 2023, pp. 2–3). Cotropia and Petherbridge (2013), analysing over 19,000 law review articles published by the top 100 law reviews between 1990 and 2010, found that although team research was on average more frequently cited than individual research, approximately 86 per cent of the articles still had a single author. Even as co-authorship has gradually increased, single-authored articles remained well above 80 per cent across the entire period studied. Philosophy exhibits a similar pattern: the sole-authored monograph or article remains the primary mode of scholarly contribution, and single authorship functions as a marker of independent intellectual achievement (Williams et al., 2009; Rull, 2025).

None of this implies that collaboration is absent from the humanities and social sciences, and no such claim is advanced here. Co-authorship is widespread across the social sciences, participatory methodologies are collaborative by design, and interdisciplinary teams increasingly include humanists. The argument concerns definitional status rather than empirical practice. Where collaboration is made constitutive of openness, sole-authored scholarship becomes anomalous in principle, however much collaboration occurs in fact.

By making collaboration a definitional attribute of open science, the Policy structurally privileges collaborative research traditions over those in which sole authorship is the epistemological norm. A legal scholar who publishes a sole-authored article in open access, with openly available supporting materials, has satisfied every substantive principle of open science, transparency, accessibility, and public availability, yet does not meet the Policy's own definition because the work is not "collaborative" (Department of Science, Technology and Innovation, 2026, p. 3). As noted above, Section 3.1 acknowledges this tension, stating that open science "should not be to the disadvantage of credible, single author research." (Department of Science, Technology and Innovation, 2026, p. 11). The caveat demonstrates that the Policy's authors were aware of the disciplinary incompatibility the collaborative criterion produces. Section 3.1 does not operationalise that awareness. The caveat appears once and does not recur across the seven policy intents, the compliance framework, the rewards and incentives architecture, or the monitoring and evaluation provisions. Hegemonic formations manage potential challenges precisely in this way: by incorporating the language of the challenge at the level at which it is most visible, without disturbing the chain of equivalences that constitutes the formation's operational coherence (Laclau and Mouffe, 1985). The structural privileging is not corrected by being named. It is reproduced at every operational level of the document while being nominally acknowledged at the definitional one. The dimensions that follow trace how that reproduction operates as the Policy moves from definition into compliance, governance, and institutional design.

The FAIR mandate: a necessary condition as discursive foreclosure

The most operationally consequential moment of epistemic closure appears in the Policy's treatment of data principles. Section 8.2.3, addressing Open Data, declares that integrating publicly funded data into a FAIR framework is "a necessary condition to ensure the effective implementation of an Open Science system in South Africa" (Department of Science, Technology and Innovation, 2026, p. 23).

The word "necessary" carries significant discursive weight. FAIR is rendered a condition of legitimacy for all publicly funded research regardless of disciplinary orientation or epistemological commitment, positioned not as one useful framework among others to be applied where appropriate but as the infrastructure of openness itself. Research that cannot comply with FAIR is thereby articulated as not fully open, and by extension not fully legitimate within the Policy's discursive formation.

The FAIR Guiding Principles were formalised by Wilkinson et al. (2016). They were designed explicitly to enhance the capacity of machines to automatically find and use data in data-intensive scientific research contexts, most prominently the life sciences. FAIR should not be conflated with open access. It does not require unrestricted public release: principle A1.2 expressly contemplates authentication and authorisation procedures, and data may be fully FAIR while access to them remains controlled, mediated or embargoed, provided the metadata are discoverable.

The argument advanced here is therefore not that FAIR compels the disclosure of sensitive material, but that its machine-actionability requirements presuppose a form of data that interpretive research does not produce. Longley Arthur and Hearn (2021) note that humanities researchers tend to speak of sources and research materials rather than data, a linguistic distinction that signals a deeper epistemological incompatibility. Humanities inquiry produces arguments, interpretations, critical readings, oral testimonies, translations, and archival analyses whose meanings are context-dependent and whose value lies precisely in their singularity (Longley Arthur and Hearn, 2021; Hellstrand, Raghothama and Meijer, 2025). These outputs resist machine-readable standardisation not because they are poorly organised but because standardisation of this kind would destroy the contextual specificity that constitutes their scholarly value.

Orlić (2024), examining FAIR principles in ethnological and anthropological qualitative research, argues that mandatory application of FAIR to qualitative disciplines risks producing impoverished research narratives. Qualitative data sharing involves sensitivities regarding community recognition, confidentiality, and consent that the FAIR framework does not address, as it was not designed with these considerations in view. The framework's machine-actionability emphasis, its requirement for standardised metadata vocabularies and persistent identifiers, and its reusability imperative are architecturally suited to structured, quantitative datasets. Applied to humanities research, FAIR's mandatory application is a category error rather than a rigorous standard that fails to be met: it imports criteria from one paradigm into research conducted within a paradigm for which those criteria have no epistemological purchase (Kuhn, 1962). In the register of data governance, the Policy thereby reproduces the same hidden antagonism (Laclau and Mouffe, 1985) that the reproducibility criterion instantiates in the register of research definition.

A companion analysis of the same Policy identifies a structurally analogous substitution at the level of data rights. Rather than addressing the common-law question of who owns research data, the Policy frames accountability through the concept of provenance: the origin, chain of custody, and movement of data from source to use. Provenance is an epistemic concept; ownership is a legal one. The substitution fails for the same reason the FAIR mandate fails: an epistemic framework has been deployed to perform the work of a legal one, and AI-generated data, as that companion analysis demonstrates, undermines the epistemic framework at the point where the Policy most needs it to hold (Thaldar et al., 2026). In both cases, the Policy has reached for a concept that appears to address a contested question while leaving the underlying question unresolved.

South Africa's regulatory framework compounds the difficulty. The Protection of Personal Information Act 4 of 2013 (POPIA) conditions the processing and further sharing of personal information (Republic of South Africa, 2013). Much humanities and social science data is irreducibly personal. Interview transcripts, oral histories, life narratives and ethnographic field notes derive their scholarly value from contextual detail that de-identification would destroy. Because FAIR accommodates controlled access, the difficulty is not that the Policy's mandate is unlawful; POPIA-compliant sharing through mediated or authorised access is in principle achievable. The difficulty is that the Policy nowhere explains how. Its Data Management Plan requirements are framed around FAIR compliance and technical standards, and are silent on tiered or mediated access arrangements, on consent architectures adequate to secondary reuse, and on the conditions under which contextual detail may lawfully be retained rather than stripped. That silence falls hardest on precisely the material that most needs the guidance: qualitative data whose scholarly value resides in the contextual detail that de-identification destroys. For qualitative researchers, the practical effect is not a conflict of laws but a governance vacuum, in which FAIR compliance is asserted as a necessary condition while the means of achieving it lawfully are left unspecified.

The consequences of FAIR's mandatory application are most acute in the domain of archival and heritage research, where the epistemological incompatibility intersects with the specific colonial conditions of South African knowledge production. Section 8.2.3's Data Management Plan requirements are framed entirely around FAIR compliance and technical standards. There is no provision for community-led access governance, contextual metadata creation, or consent-based digitisation protocols.

Many archival collections in South Africa and across the African continent are colonial in origin, carrying within them structural biases embedded in their organisational and documentary logic (Harris, 2002; Peterson, 2002; Stoler, 2002). FAIR-compliant digitisation that preserves the categories of colonial cataloguing and classification systems amplifies rather than disrupts colonial knowledge hierarchies through the infrastructure of open access (Zaagsma,

2023). LeClere (2018) has noted that many records in institutional collections were created without the consent of the communities they concern, and that straightforward open access to such materials can violate community rights where records document trauma, dispossession, or culturally sensitive practices. Community-governed digital archiving approaches, grounded in the principles of collective benefit and community authority that CARE articulates, represent an epistemologically distinct model of data governance for which the Policy's exclusively FAIR-oriented framework provides no conceptual space. In the South African context, the FAIR mandate risks reproducing, through the infrastructure of openness, the same extractive relationship to knowledge that colonialism established.

The CARE principles: aspiration within a hegemonic formation

The Policy acknowledges the CARE Principles (Collective Benefit, Authority to Control, Responsibility, and Ethics) as a complement to FAIR, specifically in relation to indigenous knowledge systems. The inclusion deserves credit. The Policy presents CARE as a corrective to acknowledged limitations of the FAIR approach, and naming CARE among the guiding principles places South Africa ahead of many national frameworks that invoke FAIR alone. What follows does not question the sincerity of that gesture. It traces what becomes of CARE once the Policy moves from principle to mechanism. CARE was named in two foundational locations: Section 5.3, where it appears as a guiding principle alongside FAIR and TRUST, and Section 5.2, where it is named as a principle to which data infrastructure must conform (Department of Science, Technology and Innovation, 2026, pp. 14–15). CARE was therefore present at the level of values and at the level of infrastructure objectives, the two moments where the Policy's commitments are most formally inscribed. The pattern that follows is analytically significant. CARE does not appear in the seven policy intents, in the critical success factors, or in the monitoring and evaluation framework. The infrastructure objective names it; the document that operationalises that objective never returns to it. The Policy named CARE at the level of aspiration, but declined to build it into any of the mechanisms through which aspiration is translated into governance. Hegemonic formations manage potential challenges precisely in this way: by incorporating the language of the challenge at the level at which it is most visible, without disturbing the chain of equivalences that constitutes the formation's operational coherence (Laclau and Mouffe, 1985).

The Global Indigenous Data Alliance (GIDA), which developed the CARE Principles, is explicit that the open data movement, including FAIR, focuses primarily on data characteristics that facilitate increased sharing, whilst disregarding power differentials and historical contexts (Research Data Alliance International Indigenous Data Sovereignty Interest Group, 2019). Carroll et al. (2021) elaborate that FAIR promotes data-centric criteria facilitating sharing whilst remaining silent on the relationships, power differentials, and historical conditions associated with the generation of data. This tension is particularly acute for indigenous communities asserting control over their own knowledge, because the power differentials and historical conditions in question are those of colonialism and its ongoing structural legacies (Smith, 1999; Mignolo, 2011).

In the original paper introducing the CARE Principles, Carroll et al. (2020) contextualise CARE within a history involving the suppression and co-optation of indigenous knowledge systems through colonialism. The South African Policy's failure to give CARE operational parity with FAIR is, within this theoretical framework, a reproduction of the constitutive outside (Mouffe, 2000) rather than a technical omission: the Policy's discursive architecture can acknowledge CARE without incorporating it because CARE represents an epistemological and political orientation that cannot be articulated into the existing chain of equivalences without disrupting it. Giving CARE operational parity with FAIR would require developing implementation and monitoring criteria for collective benefit, community authority, and ethical accountability equivalent to those that already operationalise FAIR's technical principles (Kukutai and Taylor, 2016). That is a paradigmatic difference in what data governance is understood to be for, not a technical gap that revised implementation guidelines can close (Carroll et al., 2021). Making that acknowledgement would dislocate the hegemonic articulation upon which the Policy depends (Laclau, 1990). Dimension 3 thereby demonstrates something that Dimensions 1 and 2 could not: the formation is structured to absorb the language of alternatives without being altered by them. The marginalisation that follows is the product of a discursive architecture that can accommodate awareness of its own limits without those limits becoming operational constraints.

Indigenous knowledge: the regime of truth and the limits of protection

The Policy's engagement with indigenous knowledge operates in two registers that sit in unresolved tension. In its affirmative register, the Policy states that Open Science "provides an enabling environment for researchers in Indigenous Knowledge Systems" (Department of Science, Technology and Innovation, 2026, p. 18) and describes open science as a key enabler of the objectives of the South African Indigenous Knowledge System. In its operative register, the engagement is framed almost entirely in protective and defensive terms. Section 6 references the Indigenous Knowledge Act (No. 6 of 2019) and invokes the principle of "as open as possible, as closed as necessary" as a safeguard against the exploitation of indigenous knowledge. The protective framing is an effect of the regime of truth within which the Policy was produced (Foucault, 1981, p. 131), rather than a deliberate decision to subordinate indigenous knowledge. Within that regime, indigenous knowledge is intelligible as something that requires protection because it is vulnerable. It remains unintelligible as a generative epistemological framework with its own validity criteria, modes of transmission, and governance structures (Smith, 1999, pp. 58–74), because the regime of truth forecloses that possibility by providing no discursive category within which it can appear as legitimate knowledge, rather than by explicitly rejecting it (Foucault, 1981; Hook, 2001).

The affirmative language, therefore, has a place in the Policy. It is present in the introduction and in the policy linkages section. Absent is any operationalisation of that affirmation within the seven policy intents, the compliance framework, or the monitoring architecture. The same pattern visible in the treatment of CARE recurs here: the language of inclusion appears in the foundational sections and disappears from the operational ones. The Policy does not resolve this contradiction. The regime of truth renders it invisible.

Ndlovu-Gatsheni (2018) argues that genuine epistemic freedom requires the recognition of indigenous knowledge as a legitimate and generative knowledge system capable of contributing to the resolution of contemporary epistemic and systemic challenges, and not merely its protection. In practice, it is a demand for a transformation of the discursive formation itself, asking that "Open Science" be rearticulated around a different set of nodal concepts. Such concepts must accommodate African indigenous epistemologies as producers rather than merely as subjects of research governance.

African knowledge paradigms, including Ubuntu-informed epistemologies, remain persistently marginalised within a South African higher education system that continues to privilege Western scientific epistemologies despite formal decolonisation commitments (Heleta, 2016; Asea, 2022). Foucault's concept of the regime of truth explains this marginalisation: the dominant epistemic hierarchy is reproduced not through explicit advocacy but through the unexamined assumptions embedded in curricula, assessment frameworks, and research governance policies. Gqaleni and Foláyan (2026), examining Ubuntu as a framework for ethical transdisciplinarity, argue that the principles sought in contemporary open and transdisciplinary science, including co-creation, fair benefit-sharing, and methodological pluralism, have been practised within African Indigenous Knowledge Systems for generations. The Policy's silence on Ubuntu as a research epistemology is therefore more than a missed opportunity. It is a reproduction of the colonial regime of truth that positioned African knowledge as pre-scientific, to be protected or exploited but not recognised as epistemologically productive on its own terms.

Woldegiorgis (2025) identifies an enduring gap in South African higher education between decolonial rhetoric and institutional practice. The Open Science Policy reproduces this disjuncture structurally. The antagonism between Western scientific epistemology and African indigenous knowledge traditions is hidden within the Policy's discursive architecture, acknowledged in the language of protection and in the affirmative enabling language of the introduction, whilst remaining invisible as an epistemological alternative within the chain of equivalences that constitutes "Open Science." Dimensions 1 through 3 demonstrated this through specific textual choices, the installation of reproducibility, the universalisation of FAIR, and the marginalisation of CARE. Dimension 4 has demonstrated it at the level of the formation's conditions of possibility. The under-operationalisation of indigenous knowledge as a generative epistemological tradition does not require a policy decision to exclude. It requires only that the Policy operate within a regime of truth that has no operative category for it. The material and institutional consequences examined in the dimensions that follow are downstream effects of an epistemological condition the Policy did not create and cannot escape without deliberate discursive intervention.

Output forms and metrics: the material effects of hegemonic articulation

The structural privileging of STEM-derived norms produces material effects across the Policy's rewards, assessment, and monitoring architecture. Section 8.2.5 endorses DORA, calls for alternative publication channels, and its supporting note explicitly includes scholastic book publishers, progressive provisions that signal awareness of the problem. Yet read against the monitoring framework in Section 10, the same pattern observed in the treatment of CARE recurs. The challenge posed by humanities and book-based scholarship is acknowledged at the level of recommendation, while the governance structures that would need to shift in order to accommodate it remain intact. Section 10 names the Web of Science, Unpaywall, and the Leiden Ranking as its concrete exemplars for monitoring Open Access specifically. While Section 10 also requires appropriate qualitative metrics and alternative non-traditional measures, the three named instruments are the clearest concrete indicators presently specified and are therefore likely to shape practice unless humanities-relevant indicators are operationalised. Each of these instruments was developed within a STEM-dominated publishing ecology. Section 8.2.2 separately identifies Article Processing Charges as a barrier requiring national intervention, a genuine concern, but one whose remedies are framed around the journal-based publishing economy that humanistic scholarship only partially inhabits.

One of the Policy's most significant underdeveloped areas is the monograph, which remains the primary output form for many humanities disciplines. Williams et al. (2009) note that humanities scholars regard the monograph as indispensable to substantive research assessment, as it is the only medium that permits the depth of argumentation required across many humanities disciplines, yet it faces high barriers of entry (Eve, 2014b). The Policy's Open Access provisions in Section 8.2.2 address articles and make only a passing reference to book processing charges, without a dedicated provision for humanities monograph publishing. The economics make this omission concrete. Article processing charges in fully open access journals have averaged in the low thousands of United States dollars and now exceed nine thousand euros at the most prestigious venues (Solomon and Björk, 2016; Else, 2020). Book processing charges operate on an altogether different scale. Eve (2014a) records a charge of £11,000 at one major commercial press. A Knowledge Exchange landscape study across eight European countries confirmed that monograph charges routinely amount to several multiples of a typical article charge (Ferwerda et al., 2017). A humanities scholar seeking to publish an open access monograph therefore confronts a cost barrier of a different order, from a funding base that is already far smaller. In law, moreover, valuable scholarly outputs also include case notes, other forms of legal commentary, doctrinal synthesis, and practitioner-facing analysis, forms through which legal knowledge often circulates beyond journal metrics alone (Danner, 2012, pp. 67-68, 75). Web of Science indexes predominantly natural and applied science journals (Larivière, Haustein and Mongeon, 2015, pp. 1–3), Unpaywall tracks open access status through DOI-based journal articles, and the Leiden Ranking measures research performance through citation impact (Zia, 2025; Waltman et al., 2012), a metric that presupposes the journal article as the normative output form and citation practice as a universal indicator of scholarly influence. Qualitative, humanities, and interpretive research traditions, whose outputs frequently take the form of monographs, book chapters, edited collections, and practice-based works, and whose citation cultures differ substantially from those of the natural sciences, are structurally under-represented within this monitoring architecture (Danner, 2012; Eve, 2014b).

Eve (2014b), in *Open Access and the Humanities*, documents the distinctive economic and scholarly conditions of humanities publishing. Humanities open access mandates were derived from a science-driven journal market, and APC levels for gold open access are frequently beyond the reach of humanities researchers who receive substantially less research funding than STEM counterparts (Eve, 2014a, pp. 43–85; Larivière, Haustein and Mongeon, 2015, pp. 1–3). Humanities and social science scholars constitute a substantial proportion of the academic workforce in many national systems yet receive a disproportionately small share of research funding. In India, for instance, the social sciences receive only 2.6% of the funding allocated to the natural sciences (Centre for Education Policy Development, 2012). Although the precise figures vary, a similar tension is evident in South Africa, where funding priorities continue to favour STEM fields, reflecting a persistent structural imbalance in the research system (Centre for Education Policy Development, 2012). This structural disparity is not acknowledged in the Policy's incentive architecture.

In our experience, journal-based metrics such as quartiles, impact factor, H indices and citations disadvantage academics in the Human and Social Sciences, when being rated as researchers or applying for personal promotion. They are held to

the same standards as their STEM counterparts, when there is a divide between the Human and Social Science and STEM research. There is clearly a need for the Policy to acknowledge this difference and to address it.

In fields such as sociology, history, and philosophy of science, book citations account for sixty per cent or more of all citations (Snijder, 2016). Article-based citation metrics are therefore structurally incapable of capturing the humanities scholarly impact. By naming these databases as the primary instruments for open access monitoring whilst leaving humanities-relevant indicators unspecified, the Policy risks cementing a measurement infrastructure that systematically undercounts humanities productivity, not because such productivity is absent but because the instruments are calibrated for a paradigmatically different research tradition.

Citizen science and the statutory constitution of the constitutive outside

The five dimensions examined above traced epistemological privileging operating through definition, compliance requirements, the marginalisation of alternatives, the regime of truth's structuring of what can appear as legitimate knowledge, and the material consequences of a metrics architecture calibrated for a different research tradition. In each case, the structural privileging was produced through the assumptions embedded in the Policy's language rather than through deliberate decision. Dimension 6 is different in kind. Here, the natural-science-centred assumptions that have operated discursively throughout the Policy receive institutional form. Section 8.2.7 frames public participation in research as the collection of data by volunteers under professional supervision, a model that reflects natural science traditions of large-scale, crowd-sourced data generation. The Policy gives this model a specific institutional shape through the following recommendation:

> "Require *that Citizen Scientists involved in a publicly funded project are under the supervision of a Professional Scientist."* (Department of Science, Technology and Innovation, 2026, p. 31)

A footnote to this recommendation specifies that Professional Scientists are registered under the Natural Scientific Professions Act 27 of 2003. The surrounding text acknowledges that many citizen scientists do not meet South African Council for Natural Scientific Professions registration criteria, and allows that their work may be guided by scientists eligible for registration "or at least employed in an academic role" (Department of Science, Technology and Innovation, 2026, p. 31). The Policy, therefore, does not categorically exclude all non-registered participants from citizen science activities. The effect is more structurally significant: the citizen science model is designed around a conception of scientific oversight drawn entirely from natural science professional frameworks. The Act governs natural scientific professions. It does not encompass social scientists, humanists, historians, cultural practitioners, or community knowledge holders. By anchoring citizen science in the professional framework, the Policy formally establishes a model of public knowledge participation in which the natural science paradigm serves as the institutional default.

Participatory action research methodologies have a substantial and productive history in addressing socio-economic inequality and educational transformation in South Africa (Walker, 2006; Moletsane et al., 2007; Theron et al., 2011; Padayachee et al., 2023). Walker and Loots (2018), in an eight-month PAR project at a rural South African university campus, demonstrate that PAR generates meaningful transformative change by expanding student capabilities and advancing social justice. Walker et al. (2020) show that PAR advances epistemic justice in South African university contexts by creating spaces for knowledge co-production between researchers and communities. Ayaya et al. (2020) confirm PAR as a viable change strategy in South African schools. The Policy applies to all publicly funded research and PAR is not excluded from its scope. But the citizen science section, the Policy's main explicit vehicle for public participation in research, is built around a model of volunteer data generation under professional scientific supervision that leaves little conceptual space for PAR's constitutive commitment to community co-production of knowledge. PAR does not produce volunteers who collect data under professional guidance. It produces communities that generate knowledge collaboratively with researchers. The citizen science framework, as designed, has no ready place for that model, not because it explicitly rejects it, but because the model it endorses is built from assumptions that cannot accommodate it. Similarly, community-based legal research, law clinics, and

rights-oriented participatory work may illustrate a similar tension between public-facing knowledge production and a natural-science-centred citizen-science model.

Here, the incommensurability between paradigms becomes most consequential (Kuhn, 1962). PAR employs different methods and operates from a different understanding of what research is for, who produces knowledge, and what counts as valid evidence. These commitments are incommensurable with the natural science model of citizen science that the Policy endorses. Applying that model as the institutional default marginalises PAR not through argument but through the ordinary operations of a discursive architecture that has no operative category for what falls outside its chain of equivalences. The natural-science-centred design of Section 8.2.7 makes visible what the previous five dimensions established piece by piece: the hidden antagonism between positivist and interpretivist epistemological traditions has been given institutional form in South African research governance, appearing in the Policy's most concrete provisions as an unexamined default. The paradigm wars produced a partial acknowledgement, in the domain of methodology, that epistemological pluralism deserved recognition, an acknowledgement that was never carried into governance. The Policy had the opportunity to begin that process. Instead, it has reproduced, at the level of institutional design, the assumptions that methodology tried to contest. This dimension most clearly reveals why the five interventions proposed in the conclusion are necessary but insufficient on their own terms: the citizen science framework's natural-science-centred boundary cannot be addressed through implementation guidelines alone. It requires deliberate institutional redesign, a demand that points toward the longer process of unsettling and reworking the Policy's underlying assumptions that the conclusion identifies.

Conclusion: dislocation, rearticulation, and the conditions for substantive epistemic justice

The South African Open Science Policy 2026 is formally committed to democratising knowledge, achieving epistemic equity, and harnessing the full potential of the national research enterprise. These are the right objectives, and the Policy contains substantive progressive provisions, as the introduction acknowledged. These include its endorsement of DORA, its identification of article processing charges as a barrier, its naming of CARE, its caveat protecting single-author research, and its affirmative language on indigenous knowledge systems. Its pitfalls lie in the discursive architecture through which those values are operationalised, not in the values themselves. The Policy constructs "Open Science" as a nodal point around which a chain of equivalences has been built from STEM-derived norms: reproducibility, FAIR data principles, journal-based metrics, article processing charges, and natural science models of citizen science. This chain structurally privileges collaborative, data-intensive, and natural science research traditions whilst under-operationalising the conditions under which qualitative, interpretive, archival, Ubuntu-informed, and participatory research traditions can fully participate.

The formation represents a resuturing of the antagonism that the paradigm wars of the twentieth century made visible and partially dislocated. Lincoln and Guba's (1985) recognition of epistemological pluralism was a moment of dislocation in the hegemonic articulation of science as necessarily positivist. The Policy has re-hidden that antagonism by relocating it from the domain of research methodology, where it was explicitly contested, to the domain of research governance, where it operates through the language of infrastructure, compliance, and institutional design. Kuhn's (1962) incommensurability thesis identifies the epistemological illegitimacy of this re-suturing: the criteria STEM-derived norms impose on all research are paradigm-specific, not universal quality standards, and they make no epistemological sense when applied across the paradigm boundary.

Foucault's (1981) regime of truth accounts for why the resuturing is invisible to those who produced the Policy. Within the dominant global knowledge governance regime, STEM-derived norms are not experienced as a paradigm among others. They are experienced as the form that rigorous research itself takes. Hook (2001) and Smith (1999) demonstrate how this regime carries colonial genealogies in post-colonial contexts, reproducing epistemic hierarchies not through intention but through the unexamined assumptions embedded in governance language. Santos (2014) names the outcome: epistemicide, the suppression of epistemological traditions through structural invisibility within

dominant knowledge systems. The three policy quotations examined above are load-bearing language, the moments at which the hegemonic articulation is most legibly inscribed in the Policy's own text.

Revised implementation guidelines cannot correct what the six dimensions above have described. They are effects of a discursive formation that reproduces epistemic privileging through its ordinary operations. Fully addressing this would require rearticulating "Open Science" around nodal concepts that accommodate epistemological pluralism as a foundational commitment rather than a peripheral add-on. That is a longer and more contested process than any single policy revision can achieve. Policy revision can address the specific pressure points at which the formation's structural privileging is most concretely institutionalised. The five interventions proposed below are necessary but not sufficient. They do not dismantle the formation. They create the conditions under which it can begin to be contested.

First, the Policy must articulate discipline-specific open science pathways for humanities and social science research, acknowledging that openness, transparency, and public benefit can be achieved through epistemologically distinct means. In legal scholarship, for example, such a pathway would not be organised around reproducibility or team-based data production, but around forms of openness appropriate to interpretive and normative research. These would include open-access publication, transparent engagement with primary legal sources, methodologically explicit doctrinal analysis, and wider public accessibility of scholarship addressed to courts, policymakers, practitioners, and the broader public (Danner, 2012; Bodig, 2015, pp. 43–44; Van Gestel, 2023, pp. 2–3). This would not represent an exception to open science, but an instance of open science taking discipline-appropriate form. A policy that cannot recognise such pathways risks confusing epistemological difference with scholarly deficiency. This would begin to disarticulate reproducibility and FAIR from the chain of equivalences that currently constitutes "Open Science" as necessarily STEM-derived. Second, CARE principles must be given operational parity with FAIR across all seven policy intents, infrastructure specifications, and evaluation criteria. The requirement is structural, not supplementary: it acknowledges the incommensurability between FAIR's machine-actionability imperative and the relational, community-governed principles that CARE articulates, an incommensurability the Policy currently manages by naming CARE in its guiding principles and objectives but failing to carry that commitment through into governance mechanisms, compliance frameworks, or monitoring provisions. Third, Ubuntu and African indigenous epistemologies must be recognised not only as knowledge requiring protection but also as generative contributors whose epistemological frameworks can enrich the national research enterprise, a recognition the Policy's affirmative language gestures toward but its operative architecture does not support. Fourth, dedicated provision must be created for monograph and archival output forms, and a metrics framework developed that operationalises the Policy's stated commitment to qualitative and non-traditional indicators, capturing the genuine range of humanistic scholarly contribution, including book-based citation patterns, community impact, and the colonial dimensions of archival digitisation that FAIR-compliant frameworks currently cannot accommodate. Fifth, the citizen science framework must be redesigned to accommodate participatory action research traditions alongside the natural-science model it currently privileges, which will require direct engagement with the natural-science-centred boundary its citizen science framework currently imposes through its institutional design and professional registration requirements.

Without these interventions, the Policy will institutionalise, under the language of democratisation, a reconfiguration of the very epistemic hierarchy it claims to dismantle. The structural privileging of positivist and natural science traditions will remain embedded, reproduced through the ordinary operations of a governance framework whose commitments to openness and accessibility rest on under-operationalised alternatives. South African research governance has inherited this condition from a longer colonial history of positioning certain ways of knowing as what knowledge simply is. The Policy had the opportunity to begin disrupting that inheritance. The five interventions above represent the minimum conditions under which that disruption becomes possible. In doing so, they would not only advance epistemic plurality but also align the Policy more closely with the foundational logic of South Africa's NSI approach, strengthening coherence across the science, technology and innovation policy landscape. At the same time, this analysis underscores that an NSI approach need not reproduce a narrow, positivist, STEM-led orientation, but can instead recognise a wider range of actors and knowledge systems as constitutive of innovation.

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Declarations

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References

Asea WB (2022) Epistemic decoloniality of westernised higher education: a discourse on curriculum justice and knowledge integration at historically white universities in South Africa. Arts Humanit High Educ 21(4):375–393. https://doi.org/10.1177/14740222221104343

Ayaya G, Makoelle TM, Van Der Merwe M (2020) Participatory action research: a tool for enhancing inclusive teaching practices among teachers in South African full-service schools. Sage Open 10(4):2158244020963576. https://doi.org/10.1177/2158244020963576

Bacchi CL (2009) Analysing policy: what's the problem represented to be? Pearson Australia, Frenchs Forest

Bodig M (2015) Legal doctrinal scholarship and interdisciplinary engagement. Erasmus Law Rev 8(2):43–54. https://doi.org/10.5553/ELR.000035

Bryman A (2016) Social research methods, 5th edn. Oxford University Press, Oxford

Carroll SR, Garba I, Figueroa-Rodríguez OL et al. (2020) The CARE Principles for Indigenous Data Governance. Data Sci J 19:43. https://doi.org/10.5334/dsj-2020-043

Carroll SR, Herczog E, Hudson M et al. (2021) Operationalizing the CARE and FAIR Principles for Indigenous data futures. Sci Data 8(1):108. https://doi.org/10.1038/s41597-021-00892-0

Centre for Education Policy Development (2012) The future of humanities and social sciences in South African universities conference. Department of Higher Education and Training, Johannesburg. https://www.dhet.gov.za/Humanities%20and%20Social%20Sciences/Humanities%20and%20Social%20Sciences%20Conference%20Report.pdf. Accessed 30 2026

Chan L, Okune A, Hillyer R, Albornoz D, Posada A (eds) (2019) Contextualizing openness: situating open science. University of Ottawa Press, Ottawa

Cotropia CA, Petherbridge L (2013) The dominance of teams in the production of legal knowledge. SSRN. https://doi.org/10.2139/ssrn.2212431

Danner R (2012) Open access to legal scholarship: dropping the barriers to discourse and dialogue. J Int Commer Law Technol 7(1):65–79. https://scholarship.law.duke.edu/faculty_scholarship/2295

Department of Arts, Culture, Science and Technology (1996) White paper on science and technology: preparing for the 21st century. Government Printer, Pretoria

Department of Higher Education and Training (2015) Research outputs policy. Government Gazette No. 38552, 11 March. Government Printer, Pretoria

Department of Science and Innovation (2022) Science, technology and innovation decadal plan 2022–2032. Department of Science and Innovation, Pretoria

Department of Science and Technology (2019) White paper on science, technology and innovation. Department of Science and Technology, Pretoria. https://www.gov.za/sites/default/files/gcis_document/201912/white-paper-science-technology-and-innovation.pdf. Accessed 22 2026

Department of Science, Technology and Innovation (2026) South African open science policy 2026. Department of Science, Technology and Innovation, Pretoria
Dudda L, Kormann E, Kozula M et al. (2025) Open science interventions to improve reproducibility and replicability of research: a scoping review. R Soc Open Sci 12(4):242057. https://doi.org/10.1098/rsos.242057
Else H (2020) Nature journals reveal terms of landmark open-access option. Nature 588(7836):19–20. https://doi.org/10.1038/d41586-020-03324-y
Eve MP (2014a) Digital economics. In: Open access and the humanities: contexts, controversies and the future. Cambridge University Press, Cambridge, pp 43–85. https://doi.org/10.1017/CBO9781316161012
Eve MP (2014b) Monographs. In: Open access and the humanities: contexts, controversies and the future. Cambridge University Press, Cambridge, pp 112–136. https://doi.org/10.1017/CBO9781316161012
Ferwerda E, Pinter F, Stern N (2017) A landscape study on open access and monographs: policies, funding and publishing in eight European countries. Knowledge Exchange, Bristol. https://doi.org/10.5281/zenodo.815932
Foucault M (1981) Power/knowledge: selected interviews and other writings 1972–1977 (ed: Gordon C). Pantheon Books, New York
Gqaleni N, Foláyan MO (2026) Ubuntu as a blueprint: learning ethical transdisciplinarity from African indigenous knowledge systems. Front Res Metr Anal 11: 1783687. https://doi.org/10.3389/frma.2026.1783687
Guba EG, Lincoln YS (1994) Competing paradigms in qualitative research. In: Denzin NK, Lincoln YS (eds) Handbook of qualitative research. Sage, Thousand Oaks, pp 163–194
Harris V (2002) The archival sliver: a perspective on the construction of social memory in archives and the transition from apartheid to democracy. In: Hamilton C, Harris V, Taylor J et al. (eds) Refiguring the archive. Springer, Dordrecht, pp 135–160. https://doi.org/10.1007/978-94-010-0570-8-9
Heleta S (2016) Decolonisation of higher education: dismantling epistemic violence and Eurocentrism in South Africa. Transform High Educ 1(1):a9. https://doi.org/10.4102/the.v1i1.9
Hellstrand M, Raghothama J, Meijer S (2025) FAIR for whom? A reality check on the state of FAIR research data management in a collaborative research project. Big Data Soc 12(2):20539517251349157. https://doi.org/10.1177/20539517251349157
Hook D (2001) Discourse, knowledge, materiality, history: Foucault and discourse analysis. Theory Psychol 11(4):521–547. https://doi.org/10.1177/0959354301114006
Howarth DR, Stavrakakis Y (2000) Introducing discourse theory and political analysis. In: Howarth DR, Norval AJ, Stavrakakis Y (eds) Discourse theory and political analysis: identities, hegemonies and social change. Manchester University Press, Manchester and New York, pp 1–23
Kuhn TS (1962) The structure of scientific revolutions. University of Chicago Press, Chicago
Kukutai T, Taylor J (eds) (2016) Indigenous data sovereignty: toward an agenda. ANU Press, Canberra
Laclau E (1990) New reflections on the revolution of our time. Verso, London
Laclau E, Mouffe C (1985) Hegemony and socialist strategy: towards a radical democratic politics. Verso, London
Laclau, E and Mouffe, C (2001) *Hegemony and socialist strategy: towards a radical democratic politics*. 2nd edn. London: Verso
Larivière V, Haustein S, Mongeon P (2015) The oligopoly of academic publishers in the digital era. PLoS ONE 10(6). https://doi.org/10.1371/journal.pone.0127502
LeClere E (2018) Breaking rules for good? How archivists manage privacy in large-scale digitisation projects. Arch Manuscr 46(3):289–308. https://doi.org/10.1080/01576895.2018.1547653
Leonelli S (2018) Rethinking reproducibility as a criterion for research quality. In: Fiorito L, Scheall S, Suprinyak CE (eds) Research in the history of economic thought and methodology, vol 36B. Emerald Publishing Limited, Bingley, pp 129–146. https://doi.org/10.1108/S0743-41542018000036B009
Lincoln YS, Guba EG (1985) Naturalistic inquiry. Sage Publications, Beverly Hills
Longley Arthur P, Hearn L (2021) Toward open research: a narrative review of the challenges and opportunities for open humanities. J Commun 71(5):827–853. https://doi.org/10.1093/joc/jqab028
Lundvall B-Å (2016) National systems of innovation: towards a theory of innovation and interactive learning. In: The learning economy and the economics of hope. Anthem Press, London, pp 85–106
Mignolo WD (2011) The darker side of Western modernity: global futures, decolonial options. Duke University Press, Durham. https://doi.org/10.1215/9780822394501
Moletsane R et al. (2007) Photo-voice as a tool for analysis and activism in response to HIV and AIDS stigmatisation in a rural KwaZulu-Natal school. J Child Adolesc Ment Health 19(1):19–28. https://doi.org/10.2989/17280580709486632
Mouffe C (2000) The democratic paradox. Verso, London
National Research Foundation (2015) Statement on open access to research publications from the National Research Foundation-funded research. National Research Foundation, Pretoria
Ndlovu-Gatsheni SJ (2018) Epistemic freedom in Africa: deprovincialization and decolonization. Routledge, London
OECD (2015) Making open science a reality. OECD Science, Technology and Industry Policy Papers, no. 25. OECD Publishing, Paris. https://doi.org/10.1787/5jrs2f963zs1-en
Open Science Collaboration (2015) Estimating the reproducibility of psychological science. Science 349(6251). https://doi.org/10.1126/science.aac4716

Orlić O (2024) Is this the end of anthropology as we know it? Some implication of FAIR principles on tales in ethnological and anthropological qualitative research. Publications 12(4):42. https://doi.org/10.3390/publications12040042
Padayachee K, Maistry S, Harris GT, Lortan D (2023) Integral education and Ubuntu: a participatory action research project in South Africa. S Afr J Child Educ 13(1). https://doi.org/10.4102/sajce.v13i1.1298
Patton C (2025) Replicability and the humanities: the problem with universal measures of research quality. Res Eval 34. https://doi.org/10.1093/reseval/rvaf052
Penders B, Holbrook JB, De Rijcke S (2019) Rinse and repeat: understanding the value of replication across different ways of knowing. Publications 7(3):52. https://doi.org/10.3390/publications7030052
Peterson B (2002) The archives and the political imaginary. In: Hamilton C, Harris V, Taylor J, Pickover M, Reid G, Saleh R (eds) Refiguring the archive. Springer, Dordrecht, pp 29–37. https://doi.org/10.1007/978-94-010-0570-8_3
Republic of South Africa (2013) Protection of Personal Information Act 4 of 2013. Government Printer, Pretoria
Research Data Alliance International Indigenous Data Sovereignty Interest Group (2019) CARE principles for Indigenous data governance. Global Indigenous Data Alliance. https://www.rd-alliance.org/wp-content/uploads/2024/03/CARE20Principles20for20Indigenous20Data20Governance_FINAL_Sept2006202019.pdf. Accessed 22 2026
Rull V (2025) Does solo publication still make sense? Single-authored publications have been essential to scientific progress but are now facing extinction. EMBO Rep 27(3):566–569. https://doi.org/10.1038/s44319-025-00677-1
Santos B de S (2014) Epistemologies of the South: justice against epistemicide. Routledge, London and New York. https://doi.org/10.4324/9781315634876
Smith LT (1999) Decolonizing methodologies: research and Indigenous peoples. Zed Books, London
Snijder R (2016) Revisiting an open access monograph experiment: measuring citations and tweets 5 years later. Scientometrics 109(3):1855–1875. https://doi.org/10.1007/s11192-016-2160-6
Solomon D, Björk B-C (2016) Article processing charges for open access publication—the situation for research-intensive universities in the USA and Canada. PeerJ 4. https://doi.org/10.7717/peerj.2264
Stoler AL (2002) Colonial archives and the arts of governance: on the content in the form. In: Hamilton C, Harris V, Taylor J, Pickover M, Reid G, Saleh R (eds) Refiguring the archive. Springer, Dordrecht, pp 83–102. https://doi.org/10.1007/978-94-010-0570-8_7
Thaldar D, Amin N, Pillay S, Bruce-Brand J, Dlamini S, Govender R, Govindsamy S, Hugo W, Kok L, Koorbanally N (2026) Perspectives on South Africa's open science policy: artificial intelligence and data ownership as unresolved questions. Sci Public Policy. https://doi.org/10.1093/scipol/scag057
Theron L, Mitchell C, Smith A, Stuart J (eds) (2011) Picturing research: drawing as visual methodology. SensePublishers, Rotterdam. https://doi.org/10.1007/978-94-6091-596-3
UNESCO (2021) UNESCO recommendation on open science. United Nations Educational, Scientific and Cultural Organization, Paris. https://www.unesco-floods.eu/wp-content/uploads/2022/04/379949eng.pdf. Accessed 24 2026
Van Gestel R (2023) Quality, methodology, and politics in doctrinal legal scholarship. Law Method:1–24. https://doi.org/10.5553/REM/.000070
Walker M (2006) Higher education pedagogies: a capabilities approach. Society for Research into Higher Education, London
Walker M, Loots S (2018) Transformative change in higher education through participatory action research: a capabilities analysis. Educ Action Res 26(1):166–181. https://doi.org/10.1080/09650792.2017.1286605
Walker M, Martinez-Vargas C, Mkwananzi F (2020) Participatory action research: towards (non-ideal) epistemic justice in a university in South Africa. J Glob Ethics 16(1):77–94. https://doi.org/10.1080/17449626.2019.1661269
Waltman L et al (2012) The Leiden ranking 2011/2012: data collection, indicators, and interpretation. J Am Soc Inf Sci Technol 63(12):2419–2432. https://doi.org/10.1002/asi.22708
Wilkinson MD et al. (2016) The FAIR guiding principles for scientific data management and stewardship. Sci Data 3(1):160018. https://doi.org/10.1038/sdata.2016.18
Williams P et al (2009) The role and future of the monograph in arts and humanities research. Aslib Proc 61(1):67–82. https://doi.org/10.1108/00012530910932294
Woldegiorgis ET (2025) Navigating the decolonial frontier: leadership perspectives on epistemic justice in South African higher education. Int J Educ Res 134: 102816. https://doi.org/10.1016/j.ijer.2025.102816
Zaagsma G (2023) Digital history and the politics of digitization. Digit Scholar Humanit 38(2):830–851. https://doi.org/10.1093/llc/fqac050
Zia S (2025) Evidence from Unpaywall on open access adoption among Indian researchers. J Data Sci Informetr Cit Stud 4(3):380–386. https://doi.org/10.5530/jcitation.20250249

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