



Documenting the Anthropocene: Connecting Attenborough's Environmental Heritage with Global Open Knowledge Systems

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‘An information ecology is a system of people, practices, values, and technologies in a particular local environment.

In information ecologies, the spotlight is not on technology, but on human activities that are served by technology.’

[Bonnie A. Nardi & Vicki L. O’Day,
Information Ecologies: Using Technology with Heart (1999)]

Abstract

As Sir David Attenborough reaches his centenary, his unparalleled natural history corpus constitutes one of the world’s richest repositories of biodiversity knowledge and ecological memory. Yet, despite its immense educational and scientific value, this vast documentation remains largely confined to commercial broadcasting platforms, with limited integration into academic discovery systems, research infrastructures, and Open Science environments. Author examines the growing disconnect between peer-reviewed environmental knowledge preserved in open-access repositories and Attenborough’s documentation of global biodiversity. Drawing on concepts from information ecology, knowledge organization, green librarianship, and the IFLA 2030. It is the absence of semantic, metadata, and discovery-layer integration that limits the scholarly and public use of this unique knowledge resource. Author proposes strategies for preserving, organizing, and enhancing the discoverability of Attenborough’s corpus, including the development of an AI-enabled Attenborough-LLM, thereby transforming a globally significant environmental heritage into an accessible resource for biodiversity research, education, conservation, and ecological literacy.

Keywords: Information Ecology, Open Science, IFLA, Agentic AI, Retrieval-Augmented Generation (RAG), David Attenborough, Biodiversity, Conservation, Environment, Informatics, Knowledge Management (KM).

Beyond Broadcasting: Attenborough, Information Ecology, and the Future of Biodiversity Knowledge

The connection between Sir David Attenborough and the Anthropocene is both profound and inseparable. Widely regarded as one of the most influential voices of our time, Attenborough has consistently highlighted how humanity has become the

dominant force shaping the Earth’s systems, capable of altering the planet’s ecological balance on an unprecedented scale. As Sir David Attenborough enters his second century, his monumental natural history broadcasting corpus stands as a premier global cultural heritage for environmental education. However, within the contemporary digital landscape, a severe structural division

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persists between high-level educational multimedia, which remains confined within commercial broadcasting networks, and peer-reviewed climate data, which is systematically organized across global Open Science infrastructures. This position paper examines this systemic fragmentation through the interdisciplinary lens of global green librarianship and information ecology. Moving beyond a strictly Eurocentric perspective, this study analyzes how international open-access repositories - ranging from European frameworks to pioneering non-commercial cooperative networks in Latin America (such as SciELO and AmeliCA), Asia, and Africa - can converge with community-centered information policies.

By aligning James Lovelock's Gaia hypothesis with modern knowledge organization systems (KOS) and the strategic advocacy framework of the IFLA 2030 Agenda, we outline the social mandate of international memory institutions to weaponize verified ecological data against targeted climate misinformation and greenwashing.

Finally, to bridge the gap between parallel informational tracks, this paper proposes a pioneering conceptual blueprint for the biodiversity information systems and international library community: the development of a domain-specific, vertical foundation model - an "Attenborough-LLM". Driven by advanced Retrieval-Augmented Generation (RAG) and agentic AI workflows strictly governed by information professionals ("librarian-in-the-loop"), such a speculative system would automate the multi-modal synthesis of global biodiversity data and narrative scripts, transferring the cognitive burden of data reconciliation from the individual researcher onto a trustworthy technological infrastructure, thereby preserving the ecological memory of the Anthropocene across geographic boundaries.

Scientific Communication and Environmental Information Ecology

The global celebration of Sir David Attenborough's centenary - marked by

monumental tributes such as David Attenborough's 100 Years on Planet Earth at the Royal Albert Hall (Royal Albert Hall, 2026) - serves as far more than a milestone for broadcast history; for the field of Library and Information Science (LIS), it acts as an urgent epistemological catalyst. Attenborough's lifework, stretching across eight decades, tracks the accelerated transition of our planet from the relative climate stability of the Holocene into the profound fractures of the Anthropocene (Crutzen, 2002).

Having begun his broadcasting career in the early 1950s, his vast multi-modal corpus - composed of television natural history records, field scripts, and geographical observations (Wikipedia, 2026) - serves as a literal visual and narrative archive of human-driven ecological transformation. Over this timeline, his documentation has evolved from chronicling seemingly untouched wilderness to recording the rapid collapse of biodiversity, the fragmentation of ecosystems, and the geometric rise of atmospheric carbon. Through his documentaries, books, and public speeches, he has chronicled the transition from the relative stability of the Holocene to the uncertainty and environmental turbulence that characterize the Anthropocene. Drawing on decades of firsthand observation, Attenborough has witnessed the destruction of habitats across the globe and the dramatic decline of biodiversity, a phenomenon he has described as one of the greatest tragedies of the modern era. A central theme in his work is the recognition that the decisions made in the coming decades will influence the state of the planet for thousands of years. He repeatedly warns that humanity is approaching critical ecological thresholds, beyond which environmental changes may become increasingly difficult, if not impossible, to reverse. Within the current information landscape, where an unprecedented volume of environmental data coexists with rampant climate misinformation and fragmented digital silos, this paper posits that

Attenborough's legacy must be examined as a structured repository of planetary memory (Prasad and Thomas, 2026). From an LIS perspective, documentation is never a passive act of storage but an active intervention in safeguarding ecological history. In an era marked by anthropocentric degradation, the digital surrogate within an archive frequently becomes the primary record of a species' ontological existence, transforming the responsibility of green librarianship into a critical battleground for maintaining data integrity and ensuring access to climate realities (Dada and Musa, 2026). Attenborough's vision of conservation is rooted not only in scientific understanding but also in an ethical commitment to empathy and responsibility. He has often emphasized that people are unlikely to protect what they do not value, and that they cannot truly value what they have never experienced. This conviction underpins his lifelong effort to bring the wonders of the natural world into the lives of millions.

While Attenborough's roots are firmly embedded in the British broadcasting tradition, the infrastructural and policy-driven response to the environmental crisis his chronicles find a highly structured framework within the European Union. Europe is currently navigating a paradigm shift through the convergence of environmental mandates (European Commission, 2025) and Open Science policies, such as Plan S (cOAlition S, 2021) and the development of the European Open Science Cloud (EOSC Association, 2023).

On a strategic level, European LIS professionals are positioned to analyze how visual and narrative environmental documentation can interface with structured data governance. This is coordinated through key initiatives like the Strategy Working Group on Environment of the European Strategy Forum on Research Infrastructures (ESFRI), which outlines strategic European research infrastructures focused on climate, biodiversity, and marine



sciences, emphasizing the integration and sharing of open environmental data across scientific projects (ESFRI, 2026).

By framing this monumental legacy through the principles of critical information ecology (Lovelock, 1979), this paper aims to map out the factual and institutional status quo of environmental repositories in the world, outlining a rigorous, programmatic roadmap that moves from passive viewing to an active, democratized scientific literacy capable of protecting the memory of the planet.

From Natural History Broadcasting to Critical Librarianship: Knowledge Organization, Information Ecology, and Ecosystemic Equity

The transition from viewing David Attenborough's multi-modal corpus as mere broadcasting material to recognizing it as an essential component of environmental data requires a profound critique of traditional knowledge organization systems (KOS). As Langdon Winner argued in his foundational thesis on whether artifacts have politics, technological design is never neutral; infrastructures and technical architectures actively embody systemic biases (Winner, 1980). In the realm of library science, just as Robert Moses' low-hanging overpasses in Long Island imposed physical barriers to exclude specific social groups, so too do

bibliographic infrastructures and modern discovery tools create systematic barriers within information ecosystems. This critical line of continuity, which spans over fifty years of critical librarianship, connects historical cataloging battles to contemporary artificial intelligence governance.

When indexing an extraordinary multi-modal legacy that documents global biodiversity and indigenous ecological relationships, traditional KOS tend to act as non-neutral gatekeepers. As Sanford Berman demonstrated in his pioneering 1971 work *Prejudices and Antipathies*, established classification frameworks like the Library of Congress Subject Headings (LCSH) incorporate deep-seated cultural and Eurocentric biases, offering inadequate or offensive representations (Berman, 1971). This structural exclusion was further theorized by Hope Olson, who demonstrated how the very logic of mainstream classification systems inherently marginalizes alternative, non-dominant perspectives on nature and society (Olson, 2002).

This historical bias is not a relic of the past but an ongoing challenge. As highlighted by recent collaborative interventions in critical cataloging by leading information professionals - notably the analytical framework on institutional resistance and the myth of neutrality within the Library of Congress Subject Headings approval process (Bailund et.al., 2026) - biased frameworks are frequently weaponized by institutional authorities as a pretext to reject subject headings related to systemic discrimination or to dilute the lived experiences of marginalized groups into euphemistic categories. In the context of environmental documentation and Attenborough's Anthropocene archive, relying on passive historical "neutrality" is insufficient; the proper evaluative criterion must be equity - an active, conscious construction of controlled vocabularies.

Today, because archives, libraries information systems utilize advanced discovery tools that aggregate local catalogs, commercial

databases, and Open Access resources, the democratic mandate shifts from traditional cataloging choices to the entire architecture of discovery systems, including ranking algorithms and recommendation engines. Within this hybrid ecosystem, ensuring the "discoverability" of open environmental data represents the true return on investment (ROI) of Open Science (OS) policies. To prevent a purely statistical or commercial efficiency from flattening ecological knowledge, the European library community must actively govern these information infrastructures. By embracing the paradigm of the "librarian-in-the-loop", information professionals act as directors of an intelligent ecosystem. They integrate metadata robustness with algorithmic agility, ensuring that the technological mediation required to access Attenborough's environmental memory serves as an open pathway to navigate complexity rather than an invisible barrier to the free circulation of science.

Attenborough's Global Legacy: From Natural History Broadcasting to Climate Advocacy

The conceptual framework for re-engineering David Attenborough's multi-modal corpus offers a powerful methodological model for long-term digital preservation, representing a critical future objective rather than a fully realized infrastructure. Documenting the Anthropocene through decades of high-definition audiovisual formats, geospatial coordinates, and complex narratives yields intricate digital objects that present unprecedented preservation challenges for modern archives. As observed in contemporary documentation studies (Prasad and Thomas, 2026), the extinction of a species constitutes not merely a biological catastrophe, but a profound informational loss to humanity. In an era accelerated by human-driven environmental degradation, this task acquires an ontological urgency: digital archives and scientific repositories will increasingly function as the final sanctuary for endangered or extinct species, transforming



Attenborough in 2003 at the launch of ARKive – a global initiative with the mission of “promoting the conservation of the world’s threatened species, through the power of wildlife imagery

the bibliographic record into a primary repository of ecological memory.

For the European library and information science sector, safeguarding such a vast, distributed heritage requires a programmatic alignment with advanced, open-access infrastructures. Existing frameworks like Europeana, Europe’s digital platform for cultural heritage (Europeana, 2024), and specialized research networks such as the Consortium of European Taxonomic Facilities (CETAF, 2025) represent the ideal socio-technical ecosystems where diverse metadata schemas - including Dublin Core (Dublin Core Metadata Initiative, 2020), PREMIS (PREMIS Editorial Committee, 2015), and specialized scientific ontologies - could be systematically integrated.

This framework aims to build upon and scale up historical, localized initiatives like the ARKive project (Wildscreen, 2018) - highly supported by Attenborough himself as an early attempt to curate biodiversity records - by transitioning them into permanent, open European repositories capable of maintaining the structural,

administrative, and semantic integrity of environmental data over generations. ARKive was an ambitious global digital encyclopedia and audio-visual record of life on Earth, created by the conservation charity Wildscreen. Supported by Sir David Attenborough - who served as the initiative’s primary patron - the project compiled images and films of thousands of threatened species to promote environmental awareness. Originally founded by Wildscreen in 2003, the archive grew to host multimedia profiles for over 16,000 endangered species, utilizing the work of over 7,000 wildlife filmmakers and photographers. Sir David deeply championed the project, stating that it would serve as an “invaluable tool in the future for anyone concerned with knowledge and care for the wildlife”. He notably launched Google Earth layers featuring endangered species from the project, but following severe funding shortages, the original ARKive website was officially shut down in February 2019.

However, translating these theoretical frameworks into practical implementation

introduces significant technical and ethical challenges, particularly regarding the role of automated technologies.

The widespread integration of artificial intelligence into archival workflows and automated metadata harvesting threatens to reduce complex ecological narratives to mere statistical efficiency, potentially automating and amplifying the historic biases embedded within legacy training datasets. To prevent this algorithmic flattening, the future organization of environmental knowledge must establish a firm commitment to human-centric mediation. This ethical boundary represents a fundamental requirement for human oversight and interpretative accountability, ensuring that technology serves as a tool for complexity rather than a mechanism for exclusion. Because automated systems lack the epistemological capacity to interpret the ethical, historical, and post-colonial nuances inherent in global environmental documentation, the preservation of a legacy like Attenborough's demands that European memory institutions position the professional curator as an active, ethically responsible director of information ecology. By ensuring that technological tools enhance rather than replace specialized human curatorial, the library community can outline a rigorous roadmap for future archives, guaranteeing that digital repositories remain transparent, inclusive, and democratically accessible spaces capable of fostering genuine ecological awareness across the continent.

Fragmented Knowledge Ecosystems: Academic Repositories and Commercial Broadcasting

For Attenborough, education plays a crucial role in addressing the challenges of the Anthropocene. A deeper understanding of ecological systems, he argues, is essential for guiding sustainable choices and fostering a sense of stewardship toward our shared planetary home. By connecting scientific knowledge with emotional engagement, he has inspired generations to recognize both

the fragility of nature and humanity's responsibility for its future.

When examining the current global operational reality of environmental information, there is a sharp and distinct separation between scientific academic literature and high-level educational multimedia. At present, no integrated platforms or semantic bridges exist to link these two domains. On one hand, raw environmental datasets, climate reports, and peer-reviewed articles are systematically organized, indexed, and made discoverable through institutional university catalogs, national OPACs, and open-access repositories driven by international Open Science frameworks and regional mandates. These include European policies, Latin America's pioneering non-commercial and cooperative infrastructures like AmeliCA and SciELO (Babini, 2020), and emerging open-access initiatives across Asia and Africa (Alperin et al., 2024). On the other hand, as mapped by recent institutional informatics literature (Prasad & Thomas, 2026), the extensive audiovisual corpus of Sir David Attenborough remains entirely within the commercial broadcasting sector, managed under standard copyright models and distributed across multiple proprietary streaming platforms, television networks, and commercial global distribution channels.

Although the immense educational heritage of Sir David Attenborough is legally fragmented among different productions, access to this endless collection of documentaries is widely guaranteed today through the web. The most substantial and historical portion of his work, spanning from his black-and-white debuts in the 1950s to modern natural history sagas, is collected and digitized within the BBC's celebratory hub "Attenborough at 100", accessible via the BBC iPlayer streaming platform and enriched by historical footage from the BBC Rewind project (Royal Albert Hall, 2026). Regarding his most recent productions, his works are distributed across major global entertainment platforms:

Netflix hosts his heartfelt witness-statement films and intimate biographical documentaries, Apple TV+ holds his spectacular series on prehistoric life, while Disney+ offers contents distributed in collaboration with National Geographic (Wikipedia, 2026).

Consequently, within the current library and information science infrastructures especially of of academic and research environments worldwide, this valuable multimedia content remains completely separate from standard bibliographic search engines. A user searching an academic discovery tool for specific biodiversity data or ecological concepts will find verified scientific literature, but will not encounter any structured metadata pathways or references leading to the corresponding broadcast documentation. This clear division represents the factual status quo: global academic systems and commercial educational media operate as two parallel tracks with no technical or metadata intersection, leaving the task of connecting narrative media with scientific research entirely to the individual initiative of the researcher or student.

Gaia, Information Ecology, and Environmental Knowledge Integration: Overcoming Documentation Silos

To establish a rigorous framework for this systemic transition, it is necessary to formally define Information Ecology within the context of modern library and information science. Originating as a holistic counter-paradigm to purely technological reductionism, Information Ecology is defined as the study of the complex, interdependent ecosystems where information, human practices, users, and technological tools interact dynamically within a specific environment (Nardi & O'Day, 1999). Unlike traditional informatics models that treat data as isolated, static components, this ecological approach posits that information is an organic, living entity whose value, accessibility, and meaning depend entirely on its relationships with the

surrounding cultural, ethical, and infrastructural networks.

This programmatic alignment between ecological memory and information management finds its deepest theoretical foundation in James Lovelock's Gaia hypothesis. Formulated within the global scientific tradition, Lovelock's model (Lovelock, 1979) conceptualizes the Earth as a complex, self-regulating synergistic system. To document the Anthropocene accurately, global information architectures and cross-border knowledge systems must transition from these rigid, fragmented structures toward a holistic paradigm of 'information ecology'. Just as Lovelock demonstrated that a disruption in one part of the global ecosystem destabilizes the whole, critical librarianship acknowledges that isolating environmental metadata obscures the systemic nature of the climate crisis. By designing semantic discovery tools and interoperable networks that reflect the interconnectedness of Gaia, memory institutions can ensure that proprietary educational media and open academic research are non-linearly linked regardless of geographic boundaries.

Sir David Attenborough's narrative methodologies have consistently mirrored this systemic perspective, translating the intricate, interconnected networks of the biosphere into a coherent public discourse. For library and information science, the Gaia hypothesis offers a profound metaphor and a methodological imperative for modern knowledge organization systems (KOS). Traditional bibliographic frameworks, rooted in linear and reductionist paradigms, tend to partition ecological knowledge into isolated classification silos, separating zoology, climatology, and human economics into disconnected categories.

To document the Anthropocene accurately, European information architectures must transition from these rigid, fragmented structures toward a holistic paradigm of "information ecology." Just as Lovelock

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A profound practical application of this systemic approach involves the digital governance of the numerous living and fossil species officially named in honor of Sir David Attenborough such as the critically endangered pitcher plant *Nepenthes attenboroughii* or the ancient fossil *Attenborosaurus*. Within modern informatics, these eponyms are not merely honorific titles; they constitute unique, standardized taxonomic keys and data nodes across global repositories like the Global Biodiversity Information Facility (GBIF, 2026). By implementing advanced semantic cross-referencing, European discovery tools can link the raw, open-access genomic and geospatial data of these specific species directly to the multimodal narrative sequences in which Attenborough chronicles their habitats. This integration effectively transforms the bibliographic databases and library catalogues from a passive inventory of separate subjects into a dynamic, interconnected informational ecosystem, preserving the complex relationships of the biosphere and supporting true planetary literacy. By mapping open biodiversity data entries - such as those stored in global networks - to narrative descriptions and climate timelines, metadata engineering allows libraries to contextualize specific data points within a broader ecosystemic web, paving the way for advanced interoperability standards.

The Contemporary Landscape: Fragmented Knowledge Ecosystems

Faced with the structural separation between institutional scientific data and popular

broadcasting media, the practical application of green librarianship shifts its focus toward community-based environmental literacy, global advocacy, and verified information dissemination. Within the global library landscape, professional networks and local institutions place environmental sustainability at the core of their social mission, moving beyond mere infrastructural ecology—such as energy-efficient buildings or paperless workflows—to encompass the active cultivation of deep ecological awareness. As codified by the International Federation of Library Associations and Institutions (IFLA) through its Section on Environment, Sustainability and Libraries, a genuinely “green” library must harmonize its physical operations with an active pedagogical mandate (Hauke et.al, 2013). In an information environment frequently complicated by fragmented data, corporate greenwashing, and targeted climate misinformation, libraries function as trusted public spaces where citizens can encounter verified facts and develop a critical ecoliteracy.

Within this context, the overarching pedagogical mission of Sir David Attenborough's lifework converges systematically with the strategic framework of the IFLA 2030 Agenda and the United Nations Sustainable Development Goals (SDGs) (IFLA, 2019). Both paradigms share a core democratic mandate: democratizing specialized knowledge to empower humanity and foster collective civic action for planetary preservation. Rather than operating as passive repositories, modern international memory institutions function as critical physical and digital conduits uniquely positioned to amplify environmental narratives, translating global ecological awareness into localized community engagement. This institutional alignment manifests through several critical socio-technical intersections across specific SDGs:

SDG 13 (Climate Action)

While Attenborough's extensive audiovisual corpus provides undeniable, visually compelling evidence of global warming and

climate destabilization, libraries transform these narrative observations into actionable civic awareness. By providing seamless access to authoritative scientific databases, peer-reviewed climate literature, and open-access repositories, information professionals contextualize broadcasting media within rigorous scientific facts.

SDGs 14 and 15 (Life Below Water and Life on Land)

IFLA actively promotes environmental literacy as a fundamental public right. Libraries leverage the profound cultural resonance of Attenborough's biodiversity documentaries (such as *Our Planet* or the *Life* series) as core pedagogical tools to demonstrate the anthropogenic impact on fragile marine and terrestrial ecosystems, anchoring raw taxonomic data within accessible public learning.

SDG 4 (Quality Education)

Attenborough's methodological approach to scientific communication exemplifies inclusive, cross-generational, and rigorous public engagement. Libraries mirror this exact principle by ensuring equitable, unbarricaded access to high-quality educational resources, neutralizing socioeconomic disparities in scientific literacy.

SDG 16 (Peace, Justice, and Strong Institutions - Target 16.10)

Target 16.10 explicitly mandates public access to verified information and the protection of fundamental freedoms. In an information ecology frequently polluted by corporate greenwashing and targeted climate skepticism, libraries deploy Media and Information Literacy (MIL) frameworks. This active intervention weaponizes objective facts to combat environmental misinformation, training citizens to critically evaluate sources, recognize fake news, and identify fraudulent ecological claims.

Therefore, green librarianship actively weaponizes verified information to champion environmental justice. By pairing public ecological interest with open-access

scientific reports, citizen science initiatives, and authoritative environmental encyclopedias, information professionals actively bridge the existing gap between popular narrative media and rigorous academic research. This localized educational framework allows green librarianship to fulfill its contemporary social mandate, converting general public interest in natural history into a structured foundational understanding of environmental issues and empowering communities to navigate the complexities of the Anthropocene.

To operationalize this convergence between Attenborough's narrative power and IFLA's global advocacy strategy, international green librarianship implements targeted, scalable, and concrete community initiatives on the ground. First, memory institutions can establish Environmental Cineforums and Debates, screening key segments of historical natural history documentaries followed by roundtables with local scientists and environmental activists to address sustainability models within the immediate territory. Second, libraries can organize Green Reading Groups centered on ecological literature - such as Attenborough's *A Life on Our Planet* - directly linking textual analysis to actionable, sustainable lifestyles within the community. Third, by initiating localized Citizen Science Laboratories, information professionals inspire library patrons to document regional biodiversity and catalog local flora and fauna using open-access digital applications and mobile resources, turning the library into an active participant in global biological indexing.

Finally, through Thematic Bibliographic Exhibitions focused on biodiversity and the climate crisis that explicitly integrate the IFLA logo and the corresponding SDG frameworks, libraries visually demonstrate their political and institutional commitment to climate justice. This systematic educational approach allows green librarianship to fulfill its contemporary social mandate, converting general public interest in natural history into

a structured, foundational understanding of environmental complexities across the Anthropocene.

Building an Environmental Foundation Model Through Bibliographic and Semantic Integration

The centenary of Sir David Attenborough provides a clear opportunity for biodiversity knowledge management systems, archivists, and library and information science professionals to analyze the structural organization of environmental knowledge on a global scale. This position paper has examined the current status quo, mapping out the distinct separation between a robust, open-access academic infrastructure driven by global Open Science initiatives and a completely independent, commercial broadcasting sector that holds much of the world's natural history narrative media.

By recognizing the non-neutrality of historical knowledge organization systems and the inherent biases embedded within automated discovery tools, the discipline acknowledges that the visibility of ecological data requires conscious, professional governance. Ultimately, the responsibility of modern librarianship, Open Access, Open Knowledge and Open Science involves recognizing these structural divisions and working within them to support public scientific literacy worldwide.

To transition from critical analysis to proactive infrastructural design, this paper proposes a pioneering blueprint for the biodiversity documentation systems and international library community: the development of a domain-specific, vertical Large Language Model (LLM) - an "Attenborough-LLM" - trained on Sir David Attenborough's multi-modal corpus and interconnected global open environmental knowledge networks. Rather than relying on generic, commercially siloed AI models - which are prone to informational hallucinations and dilute scientific accuracy through generalized probabilistic patterns - this specialized model would function as a

curated, authoritative Knowledge Graph transformed into an interactive conversational interface.

Crucially, this architecture could directly address the operational fragmentation identified in the status quo of environmental documentation, where connecting narrative media with scientific research has historically been restricted to the individual initiative of the researcher or student. By leveraging advanced Retrieval-Augmented Generation (RAG) frameworks and agentic AI workflows, the specialized model could act as the missing semantic bridge between these parallel information tracks. Armed with autonomous execution loops and domain-specific tools, these AI agents would not merely retrieve isolated text blocks; they would dynamically orchestrate multi-modal connections.

When queried on complex ecosystemic transformations, such an agentic system could parse raw biodiversity data nodes from international networks like CETAF, cross-reference them with trans-regional open repositories (including Latin American, African, and Asian open databases), and simultaneously retrieve, align, and contextualize the corresponding narrative sequences from eight decades of Attenborough's verified broadcasting scripts. Consequently, the combination of RAG and agentic orchestration would automate the synthesis of cross-domain knowledge, effectively transferring the cognitive burden of data reconciliation from the individual student onto a coordinated, trustworthy technological infrastructure governed by information professionals ("librarian-in-the-loop").

While a unified, cross-border semantic integration of multimedia and open datasets remains a theoretical model for the future rather than a present reality, the current role of the international information professional is defined by human mediation and targeted educational outreach. By utilizing the global awareness generated by Attenborough's legacy as a starting point for verified environmental programming, the international library community ensures that

public interest is effectively directed toward authoritative scientific knowledge. This systematic approach preserves the memory of the Anthropocene, ensuring that information networks - whether traditional catalogs or emergent agentic AI tools - remain reliable pathways for civic awareness and environmental education across geographic boundaries.

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We moved from being a part of nature to being apart from nature. We came to regard the wilderness as something to be tamed rather than something we were a part of. Yet our dependence upon the natural world remains unchanged. Every mouthful of food and every breath of air ultimately comes from the natural world. The truth is that we are not separate from nature; we are part of it, and our future depends upon it.

-David Attenborough, A Life on Our Planet (paraphrased from several passages in the book)



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