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CARE-ful KO: From "Neutral" Access to Relational Accountability

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Abstract

Knowledge organization systems (KOS) and metadata are not neutral; we embed epistemological commitments that shape representation, access, and authority in them. This paper examines what it would mean to incorporate the CARE principles (Collective benefit, Authority to control, Responsibility, and Ethics) into KOS and metadata. Drawing on recent work centering relationality and stewardship in Indigenous data governance, the paper argues that CARE reorients KO from a primary emphasis on stability and access towards relational accountability and community authority. Incorporating CARE requires intervention at both semantic and structural levels: semantically, through terminology, naming authority, and term provenance as a record of representational decisions; structurally, through hierarchy, governance, and transparent revision processes. This approach proposes that a CARE-ful KO is defined by accountable, structured, and relational change.

1.0 Introduction

Knowledge organization systems (KOS), metadata schemas, indexing languages, and the like, are artifacts that embody theories of knowledge. As Tennis (2008) argues, epistemology, theory, and methodology are inseparable from classification. Hjørland (2002, 2013) similarly argues for a domain analysis approach, emphasizing that classification reflects socially situated knowledge claims rather than neutral description. Despite these arguments, the default deployment of KOS and metadata privileges structural stability, hierarchical coherence, and universality (Ranganathan 1967). Critical work in KO has demonstrated that these values can produce harm. Adler and Tennis (2013) articulate a taxonomy of harm in knowledge organization systems, while Tennis (2012a, 394) analyzes how hierarchical structures can function as "ethical augments." Mai (2009) further reminds us that classification boundaries are negotiated and contingent.

The FAIR Principles (Findability, Accessibility, Interoperability, and Reusability) were developed in response to scientific data becoming increasingly fragmented and difficult for both humans and computational agents to locate, integrate, and reuse at scale (Wilkinson et al. 2016). Researchers working in Indigenous data governance and curation constructed a parallel set of principles called the CARE principles (Collective benefit, Authority to

control, Responsibility, and Ethics). While FAIR emphasizes access and reuse, CARE shifts attention to who benefits and has authority over knowledge. KOS and metadata are inextricably linked to data. This shift raises foundational questions for KO: Through the lens of CARE, what counts as harm? What would justice look like within metadata and indexing languages as understood by CARE? And how might existing systems adapt without forfeiting functionality?

This paper argues that incorporating CARE into KO is useful, but requires shifting priorities from stable access toward relational accountability. At the semantic level, it involves revising harmful terminology, incorporating community-preferred language, and documenting term provenance. At the structural level, it operates at two degrees: the architecture and hierarchical placement of the system itself and the governance processes through which that architecture is maintained and revised. CARE-centered KOS and metadata do not abandon traditional principles of KO but treat it as continuous, revisable, relational practice shaped by community stewardship.

2.0 Background: FAIR, CARE, and KO

The two frameworks, CARE and FAIR, are complementary in principle, but in tension in practice. Ungoverned open data sharing can reproduce colonial patterns of extraction, removing knowledge from communities without consent, benefit, or accountability (Carroll et al. 2020). This tension, open access vs. governance, mirrors KO problems. Like FAIR's Findability and Accessibility principles, KOS and metadata are the infrastructure through which knowledge gets named, categorized, and made accessible. The latter two principles —Interoperability and Reusability—map onto KO unevenly. Dublin Core, a fifteen-element metadata standard, was developed for Interoperability (Dublin Core Metadata Initiative 2021). Dublin Core's shared metadata elements show how metadata (and by extension KOS) can achieve Interoperability, letting heterogeneous systems describe resources in common terms (Dunsire et al. 2011). Reusability, in a CARE-compatible sense, can be shifted from a technical to a governance lens: metadata and KOS are reusable when their categorization decisions are transparent, documented, accountable to, and open to be challenged by the communities they describe. As Adler and Tennis (2013, 266) remind us, "When we organize knowledge, we act." KO has already begun to ask these and similar questions. The question remains: how do we apply this CARE framework to KO operationally? KO encodes epistemological commitments about whose knowledge counts, under whose authority, and toward whose benefit. Carroll et al. (2020) argue that being "CARE Full" (or CARE-ful) is a prerequisite for equitable data practices. Hence, a CARE-ful KO practice demands a continuous, revisable act across the levels of semantics and structure, rather than a stable and neutral infrastructure.

3.0 CARE-ful KO: Shifting from Hierarchy to Relationality

Historically, KO systems and metadata have prioritized hierarchy and stability as core values (Ranganathan 1967). Such theory is inseparable from KO practice. When

hierarchical coherence and stability foreground design values, these systems as a result privilege dominant knowledge frameworks while marginalizing others. Adler and Tennis' (2013) KO taxonomy of harm outlines a set of harmful actions within KO that provide a critical framework for practitioners. Harmful systems tend to endure because revision is costly, energy-expensive, and hence, deprioritized. Harm persists not through active intent, but through institutional inertia. Through the concept of subject ontogeny (the life of a subject over time), Tennis (2012b) shows how classification schemes undergo continuous change where subjects are added, removed, shifted, and redefined across editions. Knowledge is dynamic, so responsible KO necessitates a CARE-ful KO practice to be equally dynamic.

CARE reorients these priorities towards revision through relational accountability, creating an operational framework to navigate KO as iterative rather than fixed. Relational accountability, as Belarde-Lewis et al. (2024) describe, refers to the network of ongoing obligations between those organizing knowledge and the communities whose knowledge is represented. These obligations extend across the lifecycle of that knowledge, are shaped by positionality, and cannot be reduced to ownership alone. Rather than stability, CARE centers revisability. Rather than a fixed hierarchy, it centers ongoing accountability to the communities whose knowledge is being organized. This does not require abandoning classification or hierarchy altogether. This framework lends to the idea that hierarchy cannot be the primary organizing logic and is better understood as a subset of relationality, one type of relationship among many, including peer, associative, and generational relationships.

Mai (2009) reminds us that classification boundaries are negotiated and contingent rather than natural or fixed, and therefore, revisable. A CARE-ful KO practice looks towards other relational structures that reflect a community's values and sense-making, treating KO as continuous practice shaped by community authority. Table 1 translates each CARE principle into KO demands.

Table 1 CARE Principles Translated to Knowledge Organization

Principle	**Indigenous Data Governance**	**Knowledge Organization**
Collective Benefit	Data ecosystems shall be designed and function in ways that enable Indigenous Peoples to derive benefit from the data.	KOS and metadata should be designed to serve and reflect the values of the communities whose knowledge is being represented to their benefit.
Authority to Control	Indigenous Peoples' rights and interests in Indigenous data must be recognized and their authority to control such data respected.	Communities have naming authority and meaningful governance roles in how their knowledge is organized, classified, and revised.
Responsibility	Those working with Indigenous	KO practitioners bear ongoing

Principle	Indigenous Data Governance	Knowledge Organization
	data have a responsibility to share how those data are used to support Indigenous Peoples' self determination and collective benefit.	obligations to represented communities, with transparency in methods and accountability for how KOS affect and support community agency.
Ethics	Indigenous Peoples' rights and wellbeing should be the primary concern at all stages of the data life cycle and across the data ecosystem.	KO requires active revision and relational accountability across the full, iterative lifecycle of a KOS.

4.0 Interventions: Semantic and Structural

Operationalizing CARE into KOS and metadata requires intervention at both the semantic and the structural level. At the semantic level, interventions address who gets named and how; at the structural level, interventions address who has authority over those decisions and how revision occurs. The two are interdependent. Without structural change, semantic intervention is insufficient and revising terminology without reforming governance is cosmetic rather than transformative.

On semantics, CARE demands attention to harmful terminology, term provenance, and community-preferred language. Terminology does not emerge neutrally; it is produced by governance structures that determine whose knowledge frameworks are authorized and whose are not. For example, Adler and Tennis (2013) demonstrate this through the Library of Congress's authorization of 'Paraphilias', a terminology change that reproduced medicalized norms precisely because the governance structure afforded affected communities no meaningful authority over the outcome. Many existing KOS and metadata carry inherited terminology that reflects dominant cultural frameworks rather than the communities in question. Revision must be accompanied by documentation of why terms changed, when they changed, and at whose authority. Naming authority must shift toward represented communities. As Caswell et al. (2017) demonstrate, marginalized communities produce richer and more accurate self-representation when given control over their own descriptive practices. In this case, term provenance rooted in CARE's values on relational accountability allows for a richer, more reflective KO practice, rather than mere reproducibility.

It can be argued that the structural level introduces more friction than the semantic level. Hierarchical structures in KO are not merely organizational, they are institutional, and often function as ethical augments, shaping perceptions and power (Tennis 2012a). Current structures are often resistant to change, focusing on centralized authority and embedded infrastructure. Structural intervention therefore demands attention to governance beyond

universal ordering and fixed hierarchies. A CARE-ful KO practice must address who has the authority to revise, add, and remove terms, and which methods determine this process. Belarde-Lewis et al. (2024) identify institutional distrust among Indigenous communities as historically grounded; rebuilding these relationships requires formal mechanisms for responsibility towards community authority.

Implementing a CARE-ful KO practice is scale-dependent. Across big and medium KO problems (Mai 2010), the interventions required at the level of a universal system like LCSH differ significantly from those at the domain or community level. Small KOP, as Mai (2010) defines it, addresses individual information management and falls outside the scope of collective governance that CARE demands. Therefore, incorporating CARE within KO means designing for flexibility, accountability, and trust-building with explicit attention to positionality and the obligations of KO practitioners. Table 2 outlines interventions at each scale.

Table 2 CARE-ful KO Interventions by Scale

	Large (e.g. LCSH, Dewey)	Medium (e.g. Domain, Community Archives)
Semantic	Revise harmful terminology; document term provenance at whose authority terms changed; incorporate community-preferred language	Align terminology with community epistemologies; establish domain-specific naming authority faithful to community knowledge claims
Structural	Reform governance to include community authority in revision processes; address institutional inertia and co-optation risk	Establish relational accountability between domain stewards and represented communities; governance should be responsive to community values and ongoing revision

5.0 Conclusion: CARE-ful KO in Practice

CARE-ful KO is not a neat solution and the tensions identified above cannot be cleanly resolved. The goal is not a perfect KO practice, but a useful and non-harmful one. As institutional constraints are real and ownership is rarely singular, the labor of ongoing relational revisions is significant. These are not reasons to forgo these goals, but reasons to be honest about the difficulties we face. What CARE offers to KO is a reorientation of priorities. While stability and interoperability remain useful, emphasizing their value as primary to KO can lead to systems calcifying around dominant frameworks, allowing harm to persist. Functionality and accountability do not need to be mutually exclusive; they can work in tandem to build richer systems.

As all KOS and metadata are constructed, the question is not whether KO changes, but how, and for whom. Reorienting KO's priorities from stable access towards stewardship, sovereignty, and ongoing accountability allows for richer context and responsibility. Through semantic intervention, we can revise harmful terminology, center community-preferred language, and document term provenance. Through structural intervention, we can build trust as an institutional obligation and reform governance. Because our KOS and metadata are constructed, our epistemological commitments are choices. A CARE-ful KO practice is one committed to continual revision, not permanence, insisting that these choices be made responsibly, relationally, and in community.

AI Usage Statement: Claude was used to assist with formatting and refining the structure of the authors' initial rough outline, developed collaboratively, into a more organized and legible outline. All ideas, arguments, and subsequent writing presented in this work were developed and written entirely by the authors.

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