Adaptive Infophilia: A Grand Theory for LIS and iSchools

By Anita S. Coleman

(Draft for private circulation and comment only)

Date: 26 March, 2026

The Problem This Theory Solves

iSchools occupy an uncomfortable middle ground. Renamed from library schools to signal disciplinary ambition, they now span cultural heritage stewardship (archives, preservation, oral history, indigenous knowledge) and commercial-technical information science (data science, HCI, AI, platform design). These are two orientations with different epistemologies, different job markets, and increasingly different faculties and a fragmented LIS disciplinary core. No widely accepted unifying theory currently holds both ends together, and one potential candidate is Coleman's adaptive infophilia theory (2025).

Adaptive infophilia holds that humans have an evolved, contextually variable love of information — a positive disposition that is fundamental to individual flourishing, social cohesion, and democratic life. The theory introduces an *infostyle spectrum* (infophile → infovore → infocurious → infopragmatist → infofool), operates at individual, institutional, and civilizational scales. The theory is integrative and draws explicitly on non-Western epistemologies — Tamil poetry, Japanese *kawaii* epistemology, embodied sensory experience — rather than treating Western information literacy "deficit" models as defaults.

Why It Matters Now

The iConference 2026 theme — *digitally enlightened society* — is precisely the terrain adaptive infophilia maps. Disinformation, AI-generated content, platform capture of public institutions, and parasocial manipulation are not merely technical problems; they are breakdowns in humanity's relationship with information. Adaptive infophilia gives LIS scholars a distinctively *theirs* theoretical entry point: grounded in the field's century-long engagement with how people find, use, evaluate, and are shaped by information, yet analytically equipped to address the 2020s' defining information crises.

Five structural arguments establish its value: (1) it reunifies what the iSchool movement split apart, framing cultural heritage institutions and data-driven platforms as analyzable through the same framework; (2) it gives LIS a theory of human nature rather than borrowed frameworks from adjacent disciplines; (3) it dissolves the sterile neutrality debate by showing that every information environment already embeds values; (4) it connects LIS to mainstream conversations on disinformation and AI that currently exclude LIS theory; and (5) it centers non-Western epistemologies as foundational rather than supplementary.

The Six-Cluster Research Agenda based on an informal analysis of Adaptive Infophilia

Cluster	Core Question
C1 Measuring infostyles	Can infostyles be reliably measured across individuals and contexts?
C2 Institutional infostyles	How do institutions develop adaptive or maladaptive information cultures?
C3 Information weaponization	How do weaponized environments systematically induce maladaptive infostyles?
C4 Cultural heritage infrastructure	How do archives, museums, and oral history programs function as infophilic infrastructure?
C5 Curriculum and pedagogy	What would an iSchool curriculum grounded in adaptive infophilia produce?
C6 AI and the future	How does AI reshape conditions for adaptive infophilia at individual and institutional levels?

Figure 1: Informal mapping of the adaptive infophilia research agenda

The Illinois Opportunity

The University of Illinois iSchool — one of the oldest and largest LIS programs in the world, with deep strengths in both cultural heritage and computational information science — is used as the illustration institution whose internal tensions adaptive infophilia is designed to resolve. A deliberate research program built around this framework would give Illinois a home-grown grand theory that is historically grounded, technically sophisticated, globally inclusive, and directly relevant to the defining public problems of the current moment.

How to read the attached map: each card shows a faculty member's cluster assignments as colored dots (1–6). Click any card to expand the specific research connection. Use the cluster buttons to filter by research area, or the type toggle to isolate full-time faculty from adjuncts. Coleman (theory originator, starred) maps across all six clusters. The bar chart at the bottom shows coverage density — C6 (AI) and C4 (cultural heritage) have the deepest benches, while C5 (curriculum) is well-staffed and C3 (weaponization) has several direct fits including Judith Pintar and Jiangping Chen.

Limitations and Next Steps

The original mapping (Figure 1) treats the six research clusters as if they were natural kinds: stable, bounded, enumerable research areas that faculty slot into. But I believe that knowledge organization (and intellectual freedom, but that's for another day) are the intellectual heart of LIS and that's what this document addresses. Dahlberg's theory of concepts holds that a concept is constituted by the totality of characteristics predicable of a referent, and that concepts exist in systematic relationships (broader, narrower, coordinate, partitive, causal) within a knowledge domain. Smiraglia extends this to the idea that knowledge organization is not merely taxonomy: this is the ongoing work of negotiating concept identity across communities of use, including when concepts from different domains collide, overlap, or falsely appear synonymous.

From this standpoint, the informal mapping has several structural problems:

First, the six clusters are not at the same level of abstraction. "Measuring infostyles" (C1) is a methodological concept. "Cultural heritage as infrastructure" (C4) is a domain concept. "AI and the future" (C6) is a horizon concept. You cannot meaningfully array these as coordinate concepts in the same genus as they belong to different facets of the same theory, and collapsing them into a flat list obscures their logical relationships. C1 is a method that applies to C2, C3, C4, C5, and C6 simultaneously; it has a partitive relationship to all others, not a coordinate one.

Second, the concept "infostyle" itself has not been disaggregated. Dahlberg would ask: what are the necessary and sufficient characteristics of this concept? Smiraglia would ask: does "infostyle" mean the same thing when applied to an individual, an institution, and a civilization? Coleman would answer that it is almost certainly not — these are homonyms masquerading as a single concept. The spectrum (infophile → infofool) describes individual cognitive-affective orientation; institutional infostyle is closer to an organizational culture concept from management theory; civilizational infostyle is closer to an epistemic regime in Foucauldian terms. We can't treat all three as if they were instances of one concept, when they may require three different research programs with different methods and different literature bases.

Third, the aggregation logic is opaque. When Yang Wang appears in C1, C2, C3, and C6, the mapping presents this as evidence of broad relevance. But from a concept-analytic perspective, this could mean one of three very different things: that Yang Wang's work genuinely touches the same underlying concept across contexts; that the clusters have been drawn at too high a level of abstraction (so almost everyone ends up everywhere); or that the concept "infophilia" is doing theoretical work that should be distributed across several more precise concepts. The faculty map cannot tell us which.

Fourth, the most theoretically significant concepts in the adaptive infophilia framework — information as love, the evolutionary substrate of curiosity, the difference between adaptive and maladaptive — appear nowhere as first-class concepts in the cluster scheme. They are buried in the theory description but not operationalized as the axes of the research agenda. A Smiraglia-style analysis would insist that the research agenda should be organized around the theory's primitive concepts, not around convenient research-area groupings that happen to be legible to a grants committee.

What a Dahlberg/Smiraglia reconstruction would look like is a concept map rather than the current cluster map. The concept map identifies the primitive concepts of the theory (infophilia, infostyle, information environment, adaptive/maladaptive gradient, human-information relationship), specifies their defining characteristics, shows their genus-species and partitive relationships, marks where the concept boundaries are genuinely contested, and then places faculty at the nodes where their methods are suited to investigating a specific concept relationship, rather than at the cluster level.

Reconstructed Agenda

A reconstructed research agenda organized around primitive concepts and their relations would use the theory's actual logical structure.

Axis 1 — Concept clarification (prior to all empirical work) - Resolve the three contested concept boundaries: (a) adaptive vs. maladaptive — what are the culturally invariant criteria, if any? (b) infophilia vs. information literacy — what does the new concept add that the old one cannot? (c) infostyle as a unified concept vs. three homonymous concepts at individual/institutional/civilizational levels. **Methods:** conceptual analysis, systematic literature review, cross-cultural concept comparison.

Axis 2 — Measurement theory (spans all domains) - Develop measurement frameworks for each level of infostyle separately — not a single psychometric instrument that conflates them. Individual-level: psychometric scale drawing on positive psychology. Institutional-level: organizational assessment drawing on KM and library science. Civilizational-level: historical and comparative indicators. Treat C1 as a methodological spine that runs through Axes 3–5, not as a standalone cluster.

Axis 3 — Infophilic infrastructure (aggregating C4 and C5) - Cultural heritage institutions and pedagogy are both mechanisms of infrastructure reproduction — they should be studied together as the adaptive infophilia system's preservation and transmission functions. **Key questions:** how does infophilic infrastructure transmit adaptive infostyles across generations? What are the conditions of its failure? **Methods:** institutional ethnography, historical analysis, participatory **action research.**

Axis 4 — Degradation mechanisms (disaggregating C3) - C3 conflates causal mechanisms (platform design, weaponization) with outcomes (maladaptive infostyle, infofool). These require separate research programs: one that maps the mechanisms by which environments degrade infostyles (closer to persuasion technology and political communication literature), and one that studies outcomes and resilience conditions (closer to health and positive psychology). Conflating them produces research that can describe but not explain.

Axis 5 — AI as new genus of information environment (recasting C6) - Rather than treating AI as a horizon cluster, position it as the test case for the entire theory's concept system: does the adaptive/maladaptive gradient apply to AI-mediated environments using the same criteria as human-curated ones? If not, what new characteristics must be added to the concept of "information environment"? Make C6 not a topic cluster but a theoretical stress test — the sharpest instrument for refining the primitive concepts identified in Axis 1.

Notes

Narrative of the 3 problems with the original mapping / illustration with iSchool Illinois

Problem 1 — Mixed facets, flat list

The clusters conflate three different facets of one theory:

methodC1 measuring infostyles | domainC4 cultural heritage | horizonC6 AI and the future

Dahlberg: coordinate concepts must share a common genus. These do not. C1 is a method that applies to all other clusters simultaneously — it has a *partitive* relationship to the whole framework, not a coordinate position within it.

Problem 2 — "Infostyle" as false unity

The concept "infostyle" is applied across three incommensurable scales without disaggregation:

Individual — cognitive-affective orientation, measurable via psychometrics

Institutional — organizational culture concept (closer to KM literature)

Civilizational — epistemic regime (closer to Foucault's épistémè)

Smiraglia: these are homonyms, not polysemes. They require different methods, different literature bases, and potentially different theories of causation.

Problem 3 — Opaque aggregation logic

When a faculty member maps to 4+ clusters, the mapping cannot distinguish between three very different explanations:

A) Their work genuinely touches one underlying concept across contexts

B) The clusters are drawn at too high an abstraction level (so most people land everywhere)

C) "Infophilia" is doing work that should be distributed across several more precise concepts

A concept map would make this diagnostic — a cluster map cannot.

Problem 4 — Primitives are invisible

The theory's most distinctive concepts — information as love, the evolutionary substrate of curiosity, the adaptive/maladaptive gradient — appear nowhere as first-class nodes in the research agenda.

They are buried in the framework description but not operationalized as the axes around which research is organized. A Smiraglia-style reconstruction would insist the agenda be organized around the theory's *primitive* concepts and their genus-species relations, not around convenient research-area groupings legible to a grants committee

#2 Problem of Primitive concepts

Dahlberg's concept theory requires that each concept be constituted by the totality of characteristics predicable of its referent, with necessary and sufficient conditions stated. Below are the primitive concepts of adaptive infophilia as they should be disaggregated.

Primitive (non-derived) concepts

Infophilia primitive - The evolved, positive human disposition toward information-seeking and meaning-making. Necessary characteristics: affective valence (love, not merely use); evolutionary basis; individual variation; contextual modulation. *Contested characteristic:* whether the disposition is domain-general or domain-specific.

Infostyle (individual) level 1 - A person's characteristic pattern of information engagement — cognitive, affective, and behavioral. Genus: personality/disposition constructs. Differentia: specifically information-focused; includes the adaptive/maladaptive gradient. *Contested boundary:* where infostyle ends and information literacy begins.

Infostyle (institutional) level 2 - An organization's characteristic pattern of information culture, governance, and flow. Related to but not reducible to organizational culture theory. Requires its own measurement theory — psychometric scales designed for individuals do not transfer. *Not coordinate* with level-1 concept.

Infostyle (civilizational) level 3 - The aggregate epistemic orientation of a society or civilization toward information — closer to Foucault's épistémè or Castells' information society than to individual psychology. Requires historical and comparative methods. *Smiraglia warning:* this may be a metaphorical extension rather than a true concept at the same level.

Information environment domain - The total structured context — institutional, technological, social — within which information behaviors occur. Distinct from information system (engineered) and information ecosystem (biological metaphor). Carries normative loading: environments can be adaptive or degrading.

Adaptive/maladaptive gradient primitive - The core evaluative axis of the theory: the degree to which an infostyle or information environment supports or degrades human flourishing through information. *Critical gap:* the theory does not yet specify the criteria by which adaptive is distinguished from maladaptive across cultures — this is the most urgent theoretical lacuna.

Infophilic infrastructure derived - Institutions, systems, and practices that sustain conditions for adaptive infophilia across populations. Libraries, archives, public broadcasters as examples. Derived from: infophilia + infrastructure theory. Not primitive — requires both parent concepts to be well-defined first.

#3 Problem of Concept Relations

The cluster mapping presents six coordinate nodes with no explicit relations between them. Dahlberg requires that a concept system specify all inter-concept relations. The table below reveals which cluster-pairs have strong logical relations that the original mapping treats as accidental.

Critical concept relations (selected)

Concept A	**Relation type**	**Concept B**	**Implication for the mapping**
Measuring infostyles (C1)	partitive	All other clusters	C1 is a cross-cutting method, not a coordinate cluster. It should be a methodological spine, not a peer node.
Infostyle (individual)	broader	Infostyle (institutional)	These are not the same concept at different scales — they have different necessary characteristics and different measurement theories. The mapping conflates them inside C2.
Info weaponization (C3)	causal	Maladaptive infostyle	C3 is the causal mechanism; maladaptive infostyle is the outcome. The mapping treats them as the same node — this collapses cause and effect.
Cultural heritage (C4)	coordinate	AI and future (C6)	Both are domains in which infophilic infrastructure can be adaptive or degraded. They are coordinate under the same genus, but the mapping gives them no explicit relation.
Curriculum/pedagogy (C5)	partitive	Infophilic infrastructure	Pedagogy is one mechanism of infrastructure — not a separate cluster but a component of how infophilic institutions reproduce themselves across generations.
Adaptive infophilia	contested	Information literacy	The boundary between these concepts is the theory's most important demarcation problem. The mapping does not surface this — but it is the most important concept relation for the iSchool audience to debate.
Infophilia (evolved)	contested	Infophilia (cultural)	Is the evolutionary claim a necessary characteristic or a speculative one? If removed, does the theory still stand? Smiraglia would require this to be resolved before the concept is treated as primitive.

Coleman's Intellectual arc of this work / research agenda: In 2001, I stated "I study problems on both sides of the information coin: knowledge organization and information behaviors. " There is coherence, not in topic, but in the underlying problem framework:

- **1990s–2000s:**
  → How do we *build* knowledge systems? (digital learning spaces, dLIST, Copyright transfer agreements, m scientific models as works, information behaviors of civil engineering/GIS students)
- **2015–2025:**
  → Who do these systems *serve or exclude*? (anti-racism digital library and international anti-racism thesaurus – trends in EDIA in libraries, statistical essay on diversity)
- **2023–present:**
  → How do systems *shape human cognition and ethics*? (adaptive infophilia

Early mover in **open access infrastructure (pre-2005 mainstreaming)**; one of few to **connect classification systems to racial justice (pre 2020 mainstreaming);** now bridging **AI + peer review (open access / public scholarship) + information ethics**, which is still emerging globally. **Low visibility (dLIST) fragmentation risk, AI work still emerging. Current Fit:** cognitive / affective information science (e.g. D. Kelly, C. Shah)**; Potential New Subfield:** ethical AI knowledge systems emerging not established.

References

1. Coleman, A. S. (2025). An introduction to infophilia, a positive psychology of information. *Journal of Information and Knowledge,* 62(1), 1–12. https://doi.org/10.17821/srels/2025/v62i1/171701.
2. Coleman, Infophilia.substack.com
3. Coleman, A. S. (2026) Adaptive Infophilia: The Ethics of Information Power. *SocArXiv.* https://doi.org/10.31235/osf.io/kjh6w_v1.
4. Dahlberg, I. (1978). A referent-oriented, analytical concept theory for INTERCONCEPT. *Knowledge Organization, 5*(3), 142–151. https://doi.org/10.5771/0943-7444-1978-3-142.
5. Goonatilake, S. (1991). *Toward a new age of science: New social technologies from the periphery*. United Nations University Press.
6. iConference 2026*: Information Literacies, Authenticity and Use: The Move Towards a Digitally Enlightened Society.* website
7. iSchool Illinois People (full time faculty). Website.
8. Knorr Cetina, K. (1999). *Epistemic cultures: How the sciences make knowledge*. Harvard University Press.
9. Raghavan, K. S., & Neelameghan, A. (2013). Ranganathan's contributions to knowledge organization and presentation. *Journal of Information and Knowledge, 50*(6), 855–862.
10. Ranganathan, S.R. Prolegomena to library classification. (2nd ed.) Asia Publishing House.
11. Smiraglia, R. P. (2015). *Domain analysis for knowledge organization: Tools for ontology extraction*. Chandos Publishing.
12. Smith, L.C. (1976). Artificial intelligence in information retrieval systems. *Information Processing & Management, 12*(3), 189–222.