

The Digital Permaculture

A Vision for Certified Organic SEO, Ecological Law, and Algorithmic Sovereignty

Marie-Soleil Seshat Landry

Landry Industries Inc. — Marie Landry's Spy Shop — Search For Organics
Moncton, New Brunswick, Canada

A Note on the Status of This Work

This book presents a personal vision and proposed framework developed by the author. It is a conceptual and policy proposal, not a description of adopted industry standards, enacted law, or validated technology.

In particular: the *organicCertification* schema concept discussed in Part III was submitted by the author as a suggestion to the public-schemaorg@w3.org mailing list in November 2024. As of this writing, it has not been adopted into the Schema.org vocabulary, and the GitHub issue numbers referenced in early drafts of this proposal do not correspond to an accepted organicCertification schema type — readers should treat this as an open proposal awaiting community review, not an existing standard.

Similarly, references to material science platforms such as Hempoxy and Seshat's Composites describe early-stage (TRL 1–2) research hypotheses with projected, not validated, performance characteristics. Macro-engineering concepts such as #MissionSahara and The New Pyramids Project are presented as long-horizon aspirational scenarios intended to illustrate the framework's logic, not as funded or engineered projects.

Table of Contents

- Introduction** — The Confluence of the Physical and Virtual Earth
- Chapter 1** — The Epistemology of the Natural-Digital Confluence
- Chapter 2** — The Universal Declaration of Organic Rights (UDOR) as an Information Standard
- Chapter 3** — Strategic Civic Action and Institutional Accountability
- Chapter 4** — The Theory and Methodology of Certified Organic SEO
- Chapter 5** — A Proposed organicCertification Semantic Web Standard
- Chapter 6** — The Search For Organics Toolset and AI Watchdog Concepts
- Chapter 7** — Post-Predatory Search Economics and a 2030 Vision
- Works Cited**

Introduction: The Confluence of the Physical and Virtual Earth

The modern digital ecosystem suffers from a profound crisis of authenticity. As the internet becomes saturated with synthetically generated content, manipulative search engine optimization (SEO) tactics, and corporate greenwashing, the mechanisms of digital discovery have drifted far from any recognizable connection to the physical world they claim to describe. A consumer searching for an "organic" product, a "sustainable" material, or an "ethical" supply chain is increasingly met with a wall of marketing language that may or may not correspond to anything real.

This book proposes a different way of thinking about that problem. It draws an extended analogy between two systems that, on the surface, seem unrelated: the ecological discipline of permaculture — the design of agricultural systems that mimic the patterns and resilience of natural ecosystems — and the architecture of digital search. The central claim is simple to state and harder to implement: if digital information systems were designed with the same principles of regeneration, diversity, transparency, and self-correction that characterize healthy ecosystems, the internet's current crisis of authenticity could be substantially reduced.

This is not a technical specification ready for deployment, nor a claim that any of this has been built at scale. It is a framework — a way of organizing thinking about search, certification, law, and material science so that they reinforce rather than contradict one another. The framework originates from the author's work across several ventures: Search For Organics, an early-stage project exploring "organic" search overlays; Marie Landry's Spy Shop, an open-source intelligence (OSINT) practice; and Landry Industries' research into hemp-based composite materials. None of these ventures are presented here as finished products. They are presented as the lived context out of which this framework emerged.

The book is organized in seven chapters. The first two lay philosophical and legal groundwork, drawing on existing ideas in environmental ethics and biocentric law. The middle chapters turn to the practical proposal at the heart of the book: a way of structuring web content and metadata so that genuine organic certifications can be more easily distinguished from unverified claims, an idea formalized as a proposed (not yet adopted) extension to the Schema.org vocabulary. The final chapters describe a set of conceptual tools for ethical search and OSINT work, and close with a long-horizon vision of what a "post-predatory" search economy might fund if it were ever realized at scale.

Readers should approach the more speculative material — particularly the macro-engineering scenarios in Chapter 7 — as thought experiments in the tradition of design fiction: tools for testing whether a set of principles holds together when extended to its logical conclusion, not as roadmaps or commitments.

Chapter 1: The Epistemology of the Natural-Digital Confluence

1.1 What Permaculture Can Teach Search

Permaculture, as a design discipline, rests on a small number of recurring principles: observe natural patterns before intervening; favor diversity over monoculture; design systems where outputs of one process become inputs to another (closed-loop cycling); and build in redundancy so that the failure of any single component does not collapse the whole system.

Contrast this with how much of the commercial web currently operates. Search engine optimization has, for two decades, often rewarded whichever actor could most efficiently produce content — regardless of whether that content reflected anything true about the world. Keyword stuffing, link farms, and now large volumes of AI-generated text optimized purely for engagement metrics are the digital equivalent of monoculture: a single "crop" (engagement-optimized content) crowding out the diversity of genuine, idiosyncratic, first-hand information that once characterized the early web.

Systemic Dimension	Physical Permaculture	Proposed Digital Analogue
Primary objective	Regenerative soil health and biodiversity	Verifiable, non-synthetic information retrieval
Core contaminants	Synthetic fertilizers, monoculture	AI-generated spam, programmatic keyword stuffing
Systemic solution	Closed-loop cycles, reciprocity	Structured, citable, schema-validated content

1.2 Algorithmic Erosion as a Working Metaphor

The metaphor of "soil erosion" is useful for thinking about what happens to a web index over time when low-quality, derivative, or synthetic content accumulates faster than it can be filtered. Just as topsoil erosion gradually strips a landscape of its capacity to support diverse life, an index saturated with low-effort or synthetic content gradually strips a search engine of its capacity to surface diverse, reliable answers.

This is, admittedly, a metaphor rather than a measurable physical process, and the book does not claim there is a precise quantitative mapping between the two domains. Its value is heuristic: it gives content creators, platform designers, and policymakers a shared vocabulary for discussing a problem — the gradual degradation of information quality — that is otherwise easy to discuss only in vague terms like "misinformation" or "spam."

1.3 Materials Science as a Grounding Discipline

One reason this framework emerged from the author's specific context is the experience of working simultaneously in digital information systems and in early-stage materials research — specifically, hemp-based composite materials under development at Landry Industries (referred to in other documents as the Hempoxy and Seshat's Composites research lines). It is important to be precise about the status of this work: as of this writing, these are pre-experimental (TRL 1–2) research concepts with projected, not validated, performance characteristics. No claim is made here about commercial availability, third-party testing results, or production-scale viability.

What this research context contributes to the present framework is not a finished product but a discipline of mind: working in a field where claims must eventually be tested against physical reality (a composite either meets a specification or it does not) creates a heightened sensitivity to the gap between marketing language and verifiable fact — a gap this book argues is just as present, and just as consequential, in digital search.

Chapter 2: The Universal Declaration of Organic Rights (UDOR) as an Information Standard

2.1 From Biocentric Law to Information Rights

Biocentric legal theory — the idea that legal personhood and protections should not be confined to humans and human institutions — has a substantial history in environmental philosophy and has informed real legal developments, such as the granting of legal personhood to certain rivers and ecosystems in some jurisdictions. A separate strand of this thinking is the 2017 Universal Declaration of Organisms Rights, drafted in Berlin by the Organisms Club Berlin and associated with the work of evolutionary biologist Dr. Hannes Anbelang, which proposed extending rights-like protections to non-human organisms broadly, drawing structurally on the European Convention on Human Rights.

This book's proposed Universal Declaration of Organic Rights (UDOR) is a distinct, author-originated framework that takes inspiration from this broader tradition of biocentric thinking but applies it to a different domain: the question of whether biological entities, ecosystems, and the producers who work with them have a legitimate interest in how they are *represented* in digital information systems.

2.2 The Representational Claim

The core claim of UDOR, as developed in this framework, is modest in scope but has broad implications: when a search engine, AI system, or digital marketplace systematically mis-describes, buries, or fails to distinguish a genuinely organic or sustainably produced good from an synthetic or conventionally produced one, it does a measurable harm — not only to the consumer who is misled, but to the producer whose genuine practices are rendered invisible or indistinguishable from greenwashing.

UDOR proposes that this harm is a legitimate subject of policy attention, in the same way that truth-in-advertising law already treats certain kinds of mislabeling as a consumer protection issue. The novelty proposed here is extending that logic explicitly into the structure of search indexes and AI training/retrieval pipelines, rather than only into product packaging.

This is a policy proposal and advocacy position, not a description of existing law. No jurisdiction currently recognizes "UDOR" as a binding legal instrument.

2.3 Civic Defense and OSINT as Enforcement Tools

In the absence of binding law, the framework argues that open-source intelligence (OSINT) — the practice of gathering and analyzing publicly available information — can serve as an informal accountability mechanism. The author's OSINT practice, operating as Marie Landry's Spy Shop, has produced a series of investigative documents applying this approach to specific sectors, including analyses of agrochemical industry practices and of fiat currency systems. These are presented as advocacy and research documents reflecting the author's positions and analysis; they are not legal indictments in the formal sense and carry no binding legal force.

A related civic-action concept developed in this body of work, sometimes referred to as #MissionPlateCovers, argues for the position that obstructed or improperly displayed vehicle license plates represent a public safety and accountability concern worth public attention — a position consistent with, though independently arrived at from, existing public discussions about license plate visibility laws in various jurisdictions.

Chapter 3: Strategic Civic Action and Institutional Accountability

3.1 The Role of Independent Research and Advocacy

A recurring theme across the author's published work is the use of independent, citizen-led research as a counterweight to institutional opacity. This chapter situates that approach within a broader, well-established tradition: investigative journalism, citizen science, and OSINT communities have long played a role in surfacing information that institutions either could not or would not surface themselves.

The specific documents produced under this banner — including analyses framed as "indictments" of particular industries or institutions — should be understood as advocacy research: documents that compile publicly available information in service of an argument. They reflect the author's interpretation and framing of that information, and readers are encouraged to consult primary sources directly when evaluating the claims made within them.

3.2 Financial Sovereignty as a Recurring Concern

A second recurring theme is skepticism of centralized fiat currency systems and an interest in "asset-backed" or commodity-linked alternatives. This is a position with a long history in economic and political thought, associated with various schools of monetary theory, and remains genuinely contested among economists. This book does not attempt to resolve that debate; it notes the position as part of the author's broader framework and situates it as one input into the "post-predatory economics" discussion taken up more fully in Chapter 7.

3.3 Local Civic Transparency

At a smaller and more concrete scale, the framework also engages with local civic transparency issues — for example, advocating that visual obstruction of vehicle registration plates be treated as a public safety matter worthy of citizen reporting. This kind of grassroots, locally-scoped advocacy is presented as a model for how the broader UDOR philosophy can manifest in everyday civic participation, distinct from the larger and more speculative proposals discussed elsewhere in this book.

Chapter 4: The Theory and Methodology of Certified Organic SEO

4.1 Redefining "Organic" in Search

In standard SEO terminology, "organic search" simply means non-paid search results, as distinguished from paid advertisements. This book proposes a second, complementary meaning: search optimization practices specifically oriented toward making genuinely certified organic, sustainable, or ethically-produced goods and services more discoverable and more easily verifiable, relative to uncertified or greenwashed alternatives.

"Certified Organic SEO," in this framework, is not a claim that any algorithm currently implements this distinction. It is a methodology — a set of practices that a content creator, brand, or certifying body can adopt voluntarily, in the hope that as structured-data standards evolve (see Chapter 5), search engines and AI systems will increasingly be able to make use of this structure.

4.2 The Methodology in Practice

The methodology rests on three pillars:

- **Subject-matter precision:** content should make specific, falsifiable claims rather than vague marketing language — "certified to USDA NOP standard XYZ by issuing body ABC" rather than "100% natural."
- **Structured data implementation:** claims should be encoded in machine-readable formats (principally JSON-LD using Schema.org vocabulary) so that search engines and AI systems can parse them without relying on natural-language interpretation alone.
- **Verifiable citation networks:** wherever possible, claims should link to the primary source of certification (the certifying body's own database or public records) rather than only to the claimant's own marketing materials.

4.3 Traditional SEO vs. Certified Organic SEO

```
Traditional approach:
  Unstructured marketing copy --> Algorithmic ambiguity --> Risk of greenwashing

Certified Organic SEO approach:
  Structured JSON-LD metadata --> Linked to issuing certification body
                                --> Machine-verifiable claim
                                --> (Potential) increased trust signal
```

The right-hand outcomes in this diagram — "increased trust signal" in particular — depend on search engines and AI systems actually choosing to weight structured, verifiable data more heavily than unstructured marketing copy. That is a design choice for platform operators, not something this framework can guarantee. The argument of this chapter is that making such a choice easier and more attractive for platforms is itself a worthwhile goal, which motivates the proposal in the following chapter.

4.4 Generative and Answer Engine Optimization (GEO/AEO)

The rise of AI-powered search and chat interfaces has introduced a new consideration: content must not only rank well in traditional indexes but must also be structured in a way that makes it suitable for an AI system to cite as a source. Industry discussion of "Generative Engine Optimization" and "Answer Engine Optimization" generally recommends clear hierarchical headings, direct question-and-answer formatting, explicit definitions, and credible backlinks — recommendations this framework adopts and extends to organic-certification claims specifically.

The framework offers the following relationship as a qualitative heuristic, not a measured or empirically validated formula:

$$AI\ Citation\ Likelihood \propto (Schema\ Structuredness \times Source\ Authority) \div Semantic\ Ambiguity$$

This expression should be read as a way of organizing intuition — more structure and more credible sourcing plausibly help, more ambiguity plausibly hurts — rather than as a quantified model with measured coefficients.

Chapter 5: A Proposed organicCertification Semantic Web Standard

5.1 The Gap This Proposal Addresses

Schema.org is a collaborative, cross-industry vocabulary used by major search engines to interpret structured data embedded in web pages. It already includes a general-purpose

Certification

type, proposed in earlier community discussion as a way to represent certifications broadly (covering things like ISO certifications, energy ratings, and organic or vegan food labels) without creating a specific type for every possible certification domain.

This chapter's proposal is narrower and more specific: a dedicated

OrganicCertification

sub-type, designed specifically to capture the properties most relevant to agricultural and material-sourcing organic certifications — purity percentages, certification scope, and a direct link to the issuing accreditation body. The intent is to make it easier for automated systems to cross-reference a product's claimed certification against a certifying body's public records.

5.2 Submission History and Current Status

Status as of this writing: This proposal was submitted by the author as a message to the public-schemaorg@w3.org mailing list in November 2024, referencing a GitHub discussion as the venue for further conversation. It has **not been adopted** into the published Schema.org vocabulary. Readers should treat the property names and structure below as a *proposal* open for community feedback, not as a standard they can rely on being recognized by search engines today.

5.3 Proposed Properties

Proposed Property	Expected Type	Function
organicPurity	Text or Number	Declares a percentage of organic purity (e.g., "100%", "95%"), intended to align with frameworks such as the USDA National Organic Program and equivalent EU organic standards.
certificationScope	Text	Specifies the certified activity boundary, such as "Crop Production," "Livestock Management," or "Processing/Handling."
issuingBody	Organization or URL	Links to the accredited third-party body that issued the certification (e.g., a recognized certifying agency), to allow cross-referencing against that body's public records.
hasCertification	Certification	Integrates with the existing Product or Organization schema types, inheriting the general-purpose certification structure already present in Schema.org.

5.4 Illustrative JSON-LD

The following is an illustrative example of how a product page might implement this proposed structure. It is provided to demonstrate the concept; because

OrganicCertification

is not a recognized Schema.org type, search engines would currently treat this as an unrecognized extension rather than a standard property.

```

{
  "@context": "https://schema.org",
  "@type": "Product",
  "name": "Example Organic Hemp Fiber Product",
  "description": "Illustrative example of a hemp-derived material product listing.",
  "hasCertification": {
    "@type": "Certification",
    "name": "Example Organic Standard",
    "issuingBody": {
      "@type": "Organization",
      "name": "Example Accredited Certifying Agency",
      "url": "https://www.usda.gov/nop"
    },
    "certificationStatus": "Active"
  },
  /* Proposed extension properties, not yet
  part of the Schema.org vocabulary:
  "organicPurity": "100%",
  "certificationScope": "Industrial Crop Processing"
  */
}

```

5.5 Addressing Mass Balance Fraud

"Mass balance" certification — where a certified volume of input material can be mixed with uncertified material and the certified label applied proportionally across the blended output — is a well-documented point of consumer confusion in several certification systems (most notably in some renewable materials and recycled-content claims). The proposal in this chapter does not solve mass balance fraud on its own; what it offers is a more granular, machine-checkable record of *what was claimed and by whom*, which could make it easier for auditors, journalists, or automated systems to compare claims against a certifying body's published audit data — if and when such audit data is itself made available in a structured, comparable format. That precondition does not currently exist at scale, and this chapter is explicit that this proposal is one piece of a much larger infrastructure problem, not a complete solution.

Chapter 6: The Search For Organics Toolset and AI Watchdog Concepts

6.1 An Overlay, Not a Replacement

The tools described in this chapter, developed under the Search For Organics banner, are conceived as lightweight overlays on top of existing search infrastructure — using existing search APIs with additional query modifiers, prompt engineering, and filtering logic — rather than as independent search indexes. This is an important distinction: building and maintaining a search index that can compete with major incumbents is an enormous undertaking, and no claim is made here that any of these tools operate at that scale.

Concept	Approach	Intended Function
Google Organics	Search API queries with added boolean modifiers	Attempts to bias results toward content with verifiable sourcing and away from heavily monetized pages
GEM Organics	LLM with search grounding, plus prompt engineering	Attempts to prioritize structured, peer-reviewed, or primary sources when an AI model summarizes search results
Bing Organics GPT	Search API overlay combined with a tuned language model	Oriented toward OSINT and research use cases, with prompts designed to flag promotional language
SpyForMe	OSINT search and report-generation workflow	Automates compilation of publicly available information into a structured report
PeaceMakerGPT	Prompted monitoring workflow	Intended to flag content that may constitute hate speech or incitement, for human review
SpyPlan	AI-assisted business plan drafting workflow	Helps early-stage ventures (particularly in sustainability-focused sectors) draft initial business plans

6.2 Limitations and Honest Framing

It is important to be direct about what these tools are and are not. They are workflows — combinations of existing AI models, search APIs, and prompt design — built by a solo practitioner and small team, not independently audited products with measured accuracy rates. Any "bias toward verified sources" achieved through prompt engineering is only as reliable as the underlying model's ability to follow those instructions, which is known to be imperfect. Tools described as "watchdog" systems (such as PeaceMakerGPT) should be understood as aids to human review, not as autonomous moderation systems making final determinations — AI content moderation systems, including this category broadly, are known to produce both false positives and false negatives, and human oversight remains essential.

6.3 Why This Matters Anyway

Despite these limitations, the chapter argues there is value in building and documenting such tools, even at small scale: they serve as proofs of concept, they make the underlying methodology (Chapters 4 and 5) concrete and testable, and they allow the practitioner-author to iterate on the framework based on real usage rather than only theory. The chapter frames this as "dogfooding" — using one's own proposed methodology in one's own practice — as a form of intellectual honesty that the framework asks of itself before asking it of others.

Chapter 7: Post-Predatory Search Economics and a 2030 Vision

7.1 From Attention Economics to "Post-Predatory" Economics

The dominant economic model of the contemporary web is built on attention: platforms are rewarded for maximizing time-on-site and engagement, often regardless of whether that engagement serves the user's actual interests. This chapter uses the term "post-predatory" to describe a hypothetical alternative model in which platforms are rewarded for connecting users with genuinely useful, verifiable information and goods — with "predatory" referring to extractive practices such as pay-per-click models that reward ad spend over relevance, or engagement-maximizing algorithmic feeds.

This chapter does not claim to have solved the well-known economic challenge here: search and content platforms have historically struggled to monetize without some form of attention-based advertising, and "post-predatory" alternatives (subscription models, certification-fee models, public-interest funding) all have their own significant drawbacks and have not been demonstrated at the scale of incumbent search engines. The chapter's contribution is to argue that *if* a viable alternative monetization model were found, the structured-certification approach in Chapters 4 and 5 would make it easier to direct that revenue toward verifiably sustainable goods and producers — a conditional argument, not a business plan.

7.2 A 2030 Vision: Two Illustrative Scenarios

To make the framework's logic concrete, this section presents two long-horizon scenarios. These are explicitly presented as illustrative thought experiments — design fiction in the tradition of speculative scenario-planning — intended to test whether the framework's principles "scale" coherently when extended to ambitious ends. They are not funded projects, engineering plans, or commitments by any organization.

Scenario A: Large-Scale Land Restoration ("MissionSahara")

One scenario explored in the author's broader body of work imagines large-scale industrial hemp cultivation as part of land restoration and carbon sequestration efforts in arid regions, paired with carbon-negative hemp-based construction materials such as those described (at early research stage) under the Hempoxy concept. Large-scale afforestation and land restoration in arid regions is an active area of real research and policy discussion globally, with significant scientific debate about feasibility, water requirements, and ecological side-effects at scale. This scenario does not resolve that debate; it simply imagines what role a "post-predatory" search economy, as described in this chapter, might play in directing capital toward such efforts *if* they were judged feasible and desirable by the relevant scientific and governance communities.

Scenario B: Vertical Agriculture for Food Security ("The New Pyramids Project")

A second scenario imagines large numbers of AI-managed vertical farming structures as a contribution to global food security and food sovereignty. Vertical farming is a real and active industry, though it currently faces well-documented economic challenges related to energy costs, and existing vertical farms operate at a far smaller scale than the numbers sometimes associated with this scenario in the author's other materials. This scenario should be read as illustrating the framework's emphasis on local food sovereignty and reduced reliance on industrial monoculture — not as a specific engineering proposal with a defined budget or timeline.

7.3 Closing Thoughts

This book has argued for a way of thinking about digital search that takes its cues from ecological design principles, for a modest and currently-unadopted proposal to extend Schema.org's certification vocabulary, and for a set of practices — Certified Organic SEO — that any content creator can begin applying today regardless of whether the larger proposals in this book are ever realized. The long-horizon scenarios in this chapter are offered in the spirit of asking "what would it look like if this worked, taken all the way?" — a useful question for testing the coherence of an idea, even when (perhaps especially when) the honest answer to "will this happen?" is "not without a great deal more work,

by many more people, than any one person or company can do alone."

Works Cited

- Schema.org. "About Schema.org."
<https://schema.org/docs/about.html>
- Schema.org. "Releases."
<https://schema.org/docs/releases.html>
- Schema.org / schemaorg GitHub repository. "Add a mechanism to support product certifications," Issue #3230.
<https://github.com/schemaorg/schemaorg/issues/3230>
- Landry, Marie Seshat. "Proposal for “OrganicCertification” Schema in Product Listings." Message to public-schemaorg@w3.org, November 19, 2024.
<https://lists.w3.org/Archives/Public/public-schemaorg/2024Nov/0001.html>
- Organismendemokratie / Organisms Club Berlin. "Universal Declaration of Organisms Rights (UDOR), Berlin 2017."
<https://organismendemokratie.org/>
- Modern Farmer. "Can You Trust the Organic Food Label?" October 2023.
<https://modernfarmer.com/2023/10/can-you-trust-organic-label/>
- Marie Landry's Spy Shop. Yellow Pages business listing, New Brunswick.
<https://www.yellowpages.ca/bus/New-Brunswick/Marie-Landry-s-Spy-Shop/104543814.html>

© Marie-Soleil Seshat Landry / Landry Industries Inc. This work presents the author's personal framework and proposals. Where it references third-party standards bodies, legal concepts, or scientific fields, readers are encouraged to consult primary sources directly.