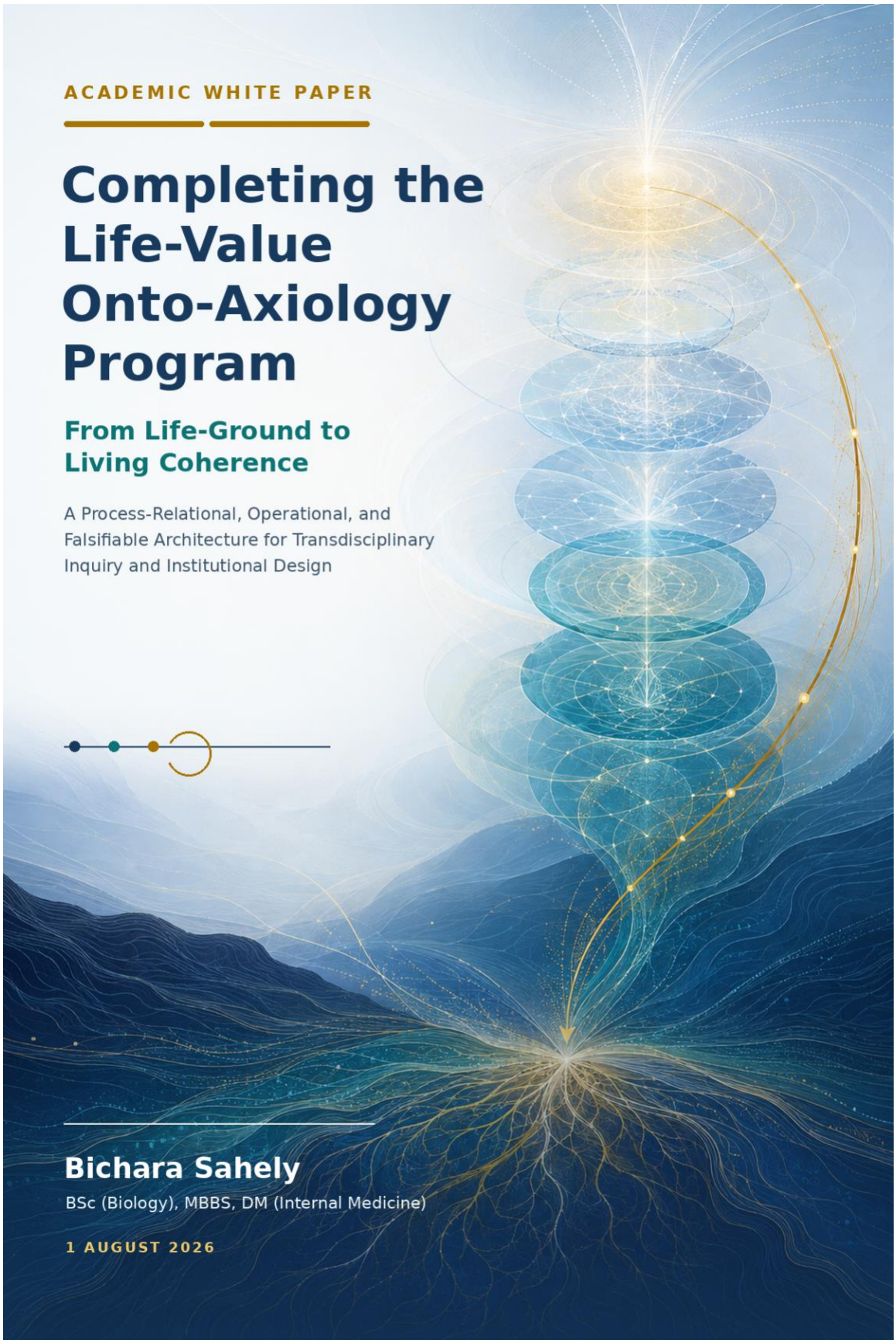
ACADEMIC WHITE PAPER

Completing the Life-Value Onto-Axiology Program

From Life-Ground to Living Coherence

A Process-Relational, Operational, and Falsifiable Architecture for Transdisciplinary Inquiry and Institutional Design



Bichara Sahely

BSc (Biology), MBBS, DM (Internal Medicine)

1 AUGUST 2026

ACADEMIC WHITE PAPER

Completing the Life-Value Onto-Axiology Program

From Life-Ground to Living Coherence

A Process-Relational, Operational, and Falsifiable Architecture for Transdisciplinary Inquiry and Institutional Design

Bichara Sahely

BSc (Biology), MBBS, DM (Internal Medicine)

1 August 2026

Dedicated to John McMurtry (1939–2021), who named the life-ground and gave philosophy a life-value compass — and to those who will continue the work without closing it into doctrine.

Abstract

Life-Value Onto-Axiology (LVOA), developed by John McMurtry, offers a universal criterion for evaluating claims, practices, institutions, and economic systems according to whether they enable or disable life-capacities. Its central concepts — the life-ground, universal human life necessities, life capital, civil commons, the life sequence of value, and the money-sequence inversion — provide an unusually powerful basis for diagnosing contemporary social and ecological crises. Yet universal evaluative adequacy does not automatically provide a process ontology, causal model, measurement architecture, decision procedure, or domain-specific research method. This white paper proposes a minimal completion of that unfinished operational program.

The proposed reconstruction preserves McMurtry's Primary Axiom while adding five connected layers: a process-relational account of living unities and objective need; an account of how significance, felt valence, and reflective meaning emerge in life-processes; a minimal grammar that prevents unmarked crossings among biological, experiential, institutional, and normative domains; a dynamic Need–Satisfier–Provision–Assimilation–Capacity–Margin–Viability model; and a threshold-sensitive decision procedure incorporating non-displacement, distribution, reversibility, and epistemic uncertainty. It further specifies life capital and civil commons as institutional forms for reproducing life goods and capacities through time.

The paper argues that LVOA can be considered conceptually complete only in an open sense: it now possesses the minimum constitutional architecture required to guide empirical inquiry and public action, while remaining corrigible by lived experience, causal evidence, adversarial testing, and affected communities. Applications are developed for health care, education, economics, and governance. The paper concludes with falsifiable middle-range hypotheses, safeguards against doctrinal closure, and a research program for canonicalization, instrument development, paradigm studies, comparative institutional testing, and plural governance of a Life-Knowledge Commons.

Keywords: Life-Value Onto-Axiology; John McMurtry; life-ground; living coherence; need; satisfier; flow; capacity; regenerative margin; viability; meaning; life capital; civil commons; transdisciplinary method.

CENTRAL THESIS

McMurtry supplied the life-value compass. A minimally complete LVOA program must also specify the distinctions, mechanisms, measurements, decision rules, and institutions through which the compass can guide living systems — and must identify what evidence would require correction.

Executive Summary

Modern institutions routinely mistake their own measures of success for the conditions of genuine human and ecological flourishing. Price becomes value; economic throughput becomes welfare; credential accumulation becomes education; treatment volume becomes health; procedural compliance becomes good governance. McMurtry's LVOA identifies the common category error: all such systems presuppose living beings and life-support conditions, yet their ruling metrics can remain blind to whether the lives involved become more or less able to think, feel, act, relate, recover, and develop.

LVOA corrects this inversion by locating value in the enablement of coherently inclusive life-capacity. Universal life necessities identify conditions whose deprivation predictably damages capacity. Life capital names organized wealth that reproduces life goods and capabilities through time. Civil commons name social arrangements that secure access to life goods according to need rather than purchasing power. The life sequence directs means toward life development; the money sequence directs life and means toward the multiplication of money claims.

The philosophical foundation is strong, but its application has repeatedly encountered an unfinished middle. A criterion can tell us what ultimately matters without explaining how a given deprivation becomes embodied, why the same satisfier helps one person and harms another, how timing and continuity alter outcomes, how subjective significance arises, how institutions displace burdens, or how evidence should revise an intervention. The Sahely–McMurtry correspondence and later work in medicine, public health, systems theory, enaction, allostasis, need theory, and institutional analysis progressively exposed these requirements (Sahely, 2026).

This paper proposes that the program becomes minimally complete through six recursively linked layers:

1. a life-value criterion that remains constitutional rather than mechanically prescriptive;
2. a minimal distinction grammar specifying focal unity, need, load, capacity, trajectory, mechanism, meaning, value, outcome, scale, time, and epistemic status;
3. a dynamic process model connecting need to satisfier, provision flow, access, assimilation, regulation, capacity, regenerative margin, and viability trajectory;
4. a threshold-sensitive decision procedure that prevents aggregate gains from concealing severe or displaced losses;
5. institutional realization through life capital, civil commons, and a publicly governed Life-Knowledge Commons; and
6. feedback and falsification through first-person, second-person, and third-person evidence, including unintended effects and affected-community correction.

The resulting model clarifies the role of flow. A satisfier is not valuable simply because it exists or is supplied in aggregate. Its life-value depends upon quantity, quality, timing, regularity, accessibility, relational form, uptake, and ecological cost. Flow is therefore not an additional substance but the temporal grammar through which life conditions become available, are incorporated, build capacity, and are reproduced. Stocks — bodies, skills, ecosystems, infrastructures, and institutions — are stabilized histories of flows and remain viable only through appropriately renewed flows.

The framework also explains why objectively meaningless microprocesses can participate in subjectively meaningful experience without asserting that meaning is already present in matter. Physical differences become biologically significant when they affect an organized unity's conditions of viability. Significance becomes felt valence in sentient organization; valence becomes concern and intentionality; memory and languaging make concern interpretable and shareable; reflective inquiry converts meanings into contestable reasons. LVOA can specify this relational and organizational ascent while acknowledging that the metaphysical hard problem of why such processes are accompanied by experience remains unresolved.

The proposed completion is thus constitutional, not encyclopedic. It does not imply that one vocabulary can replace physiology, psychology, ecology, economics, law, or political struggle. It specifies what each domain must make visible if it claims to be life-coherent, and how cross-domain claims should be disciplined and tested.

Table of Contents

List of Figures

List of Tables

1. Introduction: What Would It Mean to Complete LVOA?

To speak of completing a philosophical program is dangerous. It can mean clarifying its minimal architecture, or it can mean closing inquiry under a doctrine that redescribes every criticism as already contained within itself. Only the first meaning is compatible with LVOA. Philosophy, as McMurtry presented it in Philosophy and World Problems, remains open to counterargument and further understanding. A framework whose criterion is life-capacity would contradict itself if it disabled intellectual plurality, silenced affected experience, or insulated its claims from evidence (McMurtry, 2011).

The central claim of this white paper is therefore qualified. LVOA can now be made minimally complete as an open research constitution: a coherent set of first principles, distinctions, causal questions, evaluative rules, institutional forms, and correction procedures sufficient to organize transdisciplinary inquiry. It cannot be completed as a final explanation of consciousness, a universal causal mechanism, a single metric, or a sovereign political blueprint. Those would be category errors.

McMurtry's work established the value ground. It identified life-capacity as the criterion by which apparent goods are distinguished from real goods; universal life necessities as objective conditions of capability; life capital as wealth that reproduces life through time; civil commons as organized universal access to life goods; and the money sequence as a structural inversion that makes living beings and their conditions means to monetary multiplication (McMurtry, 1998, 2002, 2011, 2013, 2018). Noonan extended the needs-based ethical and democratic implications of this approach (Noonan, 2006, 2012).

The unfinished task appears when the criterion enters practice. Clinical medicine requires mechanisms, states, trajectories, thresholds, uncertainty, and individualized response. Public health requires distribution, exposure pathways, institutional causation, and population heterogeneity. Education requires developmental sequences and learning conditions. Economics requires material provisioning, ecological throughput, and burden accounting. Governance requires participation, power analysis, appeal, and institutional self-correction. Logical inclusion within an ultimate criterion is not operational sufficiency across these domains.

COMPLETION STANDARD

LVOA is minimally complete when it can move from value criterion to disciplined distinction, from distinction to testable causal model, from model to proportionate action, and from action to public feedback and revision — without collapsing one domain into another.

2. Intellectual Inheritance and Contribution Boundary

2.1 McMurtry's constitutional achievement

McMurtry's Primary Axiom may be condensed as follows: X is valuable insofar as it enables a more coherently inclusive range of thought, felt being, and action than without it. Conversely, disvalue consists in unnecessary reduction, disablement, or destruction of these fields. The important term is not merely more but coherently inclusive. An increase in one person's purchasing power, one institution's reach, or one population's security cannot count as an unqualified gain if it depends upon disabling others or destroying the ecological conditions of future life.

The Primary Axiom is not a conventional preference theory. It evaluates preferences themselves according to their effects on life-capacity. Nor is it reducible to biological fitness. Survival and replication can occur through parasitism, domination, or ecological overshoot. Life-value concerns the quality, range, inclusion, and reproducibility of living powers — not persistence alone.

2.2 The proposed reconstruction

The present paper does not rewrite the Primary Axiom. It proposes an operational corollary and a set of bridge concepts needed for interdisciplinary use. This contribution boundary matters because later terms should not be retroactively attributed to McMurtry as though he had formulated them in their present form.

Table 1. Contribution boundary between McMurtry's established LVOA architecture and the proposed operational reconstruction.

Layer	Established LVOA inheritance	Proposed operational completion
Value ground	Life-capacity; Primary Axiom; life coherence	Anti-displacement, threshold, distribution, reversibility, and uncertainty tests
Objective conditions	Universal life necessities and life goods	Need–satisfier–preference distinction; provision-flow and assimilation profiles
Temporal wealth	Life capital	Capacity, load, regenerative margin, repair, phase, and viability trajectory
Collective provision	Civil commons	Nested governance, feedback, contestability, capture detection, and Life-Knowledge Commons
Political economy	Life sequence and money-sequence inversion	Material flow, burden displacement, ecological cost, and life-value efficiency
Method	Life-coherence and open philosophical argument	Minimal grammar, evidence triangulation, domain discipline, and adversarial testing

2.3 Method and sources

The paper uses critical reconstructive synthesis. Its primary philosophical source is McMurtry's published corpus, especially Unequal Freedoms, Value Wars, Philosophy and World Problems, and The Cancer Stage of Capitalism. It also draws upon the Sahely–McMurtry correspondence and the earlier white paper From Life-Value to Living Coherence, which identified seven minimal distinctions and four mandatory qualifiers (Sahely, 2026; Sahely & McMurtry, 2016–2021). The program's intellectual genealogy also includes McMurtry's earlier study of the structure of Marx's worldview, which provides historical context for his later critique of ruling value systems (McMurtry, 1978).

Adjacent bodies of work are used as bridges rather than as authorities that prove LVOA: autopoiesis and structural coupling (Maturana & Varela, 1980, 1987); enaction, adaptivity, and sense-making (Varela et al., 1991; Di Paolo, 2005; Thompson, 2007); constraint and emergent teleodynamics (Deacon, 2011); allostasis and allostatic load (McEwen, 1998; Sterling, 2012); human-needs theory (Doyal & Gough, 1991; Max-Neef et al., 1991); capability approaches (Sen, 1999; Nussbaum, 2011); and commons governance (Ostrom, 1990). Compatibility is not identity. Each bridge must state what new mechanism or method it contributes and where the analogy ends.

The status of the resulting architecture is explicitly mixed. Some propositions are conceptual definitions; some are normative principles; some are causal hypotheses; some are formal heuristics; and some are institutional design proposals. Their validity must be evaluated by the standards appropriate to their domain.

3. Ontological Ground: Life as Organized Dependence

3.1 Living unity, structure, and medium

A living being is neither an isolated object nor an undifferentiated part of a cosmic whole. It is an organized unity that continuously regenerates its components, boundaries, and relations while remaining materially and energetically open to a medium. Autopoiesis clarifies the organizational closure through which a living unity maintains its identity; structural coupling clarifies how its changes occur in recurrent relation with a medium (Maturana & Varela, 1980).

This yields the first indispensable distinction: unity, structure, and medium. The focal unity is the organized whole whose viability or capacity is at issue. Structure is the presently realized organization and component relations through which it operates. Medium is the field of material, ecological, relational, institutional, and symbolic conditions in which it exists. Confusing these levels leads either to

individualism, which treats medium-generated harms as personal defects, or to holism, which dissolves the agency and particularity of living beings into a vaguely interconnected whole.

3.2 Objective need

Objective need arises from organized dependence. A condition is necessary when its absence, insufficiency, excess, mistiming, or inaccessibility predictably causes loss of life, integrity, capacity, developmental possibility, or regenerative margin in the focal unity. Need is therefore neither synonymous with conscious desire nor exhausted by an observer's classification. A person may need insulin, sleep, safety, or social recognition without presently wanting or accurately identifying it. Conversely, intense desire does not establish necessity.

Needs remain domain- and state-sensitive. Oxygen is universally necessary, yet its clinically appropriate concentration depends upon physiology and context. Challenge can develop capacity when matched to reserve and recovery, but become harmful when imposed on a depleted system. The universality of a need category does not eliminate variation in dose, timing, mode, substitutability, vulnerability, or cultural expression.

3.3 From difference to significance, valence, and meaning

Elementary physical events need not possess meaning. A difference becomes biologically significant when, within an organized living relation, it alters conditions relevant to viability or capacity. Sugar concentration, temperature, light, threat cues, touch, and social response matter not as intrinsic semantic properties of particles but through the difference they make to a living unity's ongoing organization.

Enactive accounts call the regulated relation to conditions of viability sense-making. Di Paolo's concept of adaptivity strengthens autopoiesis by distinguishing mere self-production from the ability to monitor and regulate tendencies with respect to viability boundaries (Di Paolo, 2005). Weber and Varela (2002) similarly connect biological individuality to an immanent normativity: the organism's continued organization establishes a perspective from which conditions can be better or worse for it.

The proposed sequence has four levels. First, there is physical difference. Second, difference acquires functional significance in relation to organized viability. Third, sentient organization realizes significance as felt valence — pain, relief, attraction, aversion, vitality, fatigue, safety, or threat. Fourth, memory, social interaction, and languaging transform felt significance into interpretive meaning, identity, purpose, and publicly contestable reasons. These levels are connected but not interchangeable.

This account avoids two symmetrical errors. It does not project human meaning into all matter, and it does not eliminate lived experience because it cannot be captured by third-person description. The felt

side of being is one of McMurtry's ultimate fields of value precisely because damage and flourishing are not exhausted by externally observed function.

3.4 The remaining hard problem

The organizational account explains how differences can become significant, how agents can regulate viability-relevant relations, and how shared meanings can be constituted. It does not fully explain why these processes are accompanied by subjective experience. That metaphysical question remains open. LVOA should therefore distinguish a well-supported relational theory of sense-making from a complete theory of consciousness. Its ethical criterion does not depend upon pretending that the hard problem has been solved.

4. The Fact–Value Bridge

4.1 Why life is not merely another preference

LVOA does not infer that whatever exists ought to continue merely because it is alive. The relevant bridge is that every act of preferring, reasoning, valuing, promising, creating, disputing, or governing presupposes living capacities. These capacities depend upon empirically identifiable conditions, and their deprivation produces observable and experientially reportable losses. Preventable destruction of the conditions of agency therefore attacks the ground from which all value claims, including dissenting claims, become possible.

The argument is simultaneously empirical and transcendental. It is empirical because deprivation, exposure, capacity, morbidity, participation, and ecological integrity can be investigated. It is transcendental because argument against the relevance of life-capacity must itself exercise life-capacities and depend upon means of life. This does not settle every conflict, but it identifies a non-arbitrary common ground for evaluating them.

4.2 The operational corollary

PROPOSED OPERATIONAL COROLLARY

An apparent gain is not a net life-value gain when it depends upon avoidable equal or greater loss of necessary life conditions, life-capacities, or regenerative margins in other persons, populations, species, ecosystems, or future generations.

The corollary makes explicit what coherently inclusive must require in institutional practice. It prevents local optimization from masquerading as general progress. A hospital cannot count throughput as success

while exhausting staff and worsening avoidable readmissions. An education system cannot count test scores as progress while disabling curiosity, health, or democratic agency. An economy cannot count extraction as wealth while liquidating the ecological and social conditions upon which production depends.

4.3 Beyond survivalism and perfectionism

The negative anchor of LVOA is preventable life-capacity loss, but the framework is not merely protective. Development matters: greater range, depth, freedom, relationship, understanding, creativity, and participation can be genuine gains. At the same time, LVOA does not impose one perfectionist image of the good life. It secures and enlarges the conditions under which plural persons and communities can develop and enjoy their capacities without disabling others.

This is where life-value and democratic freedom meet. Universal necessities create an objective floor; capacities create a field of possible plural development; participation and public reason govern conflicts among realizations. The universal ground constrains domination without prescribing a uniform culture.

5. The Minimal Operational Grammar

Transdisciplinary work fails less often because it lacks concepts than because the same term silently changes referent, domain, scale, or evidentiary status. The proposed grammar is intentionally small. It does not aim to replace specialized vocabularies. It identifies the distinctions that must be made before disciplines can translate their findings into a shared life-value inquiry.

Table 2. Seven minimal distinctions for interdisciplinary life-value inquiry.

Core distinction	Operational question	Error prevented
Unity – structure – medium	What is the focal whole, how is it organized, and what conditions surround and enable it?	Atomism, vague holism, and misplaced causality
Need – satisfier – preference	What condition is objectively required, what may meet it, and what is merely desired?	Consumer preference being mistaken for need or value
Load – capacity – margin	What demands are imposed, what can presently be done, and what reserve remains?	State measures being mistaken for resilience or safety
State – trajectory – phase	What is happening now, where is it heading, and what developmental or degenerative phase is occurring?	Static snapshots and mistimed intervention
Event – meaning – mechanism – value	What occurred, what did it signify, how was it produced, and what difference did it make to life?	Experience, causation, and evaluation being collapsed
Intention – function – outcome	What was meant, what role did the pattern serve, and what actually followed?	Moralizing systems or excusing harm by good intent
Local – nested – future consequences	Who benefits here, what happens elsewhere, and what is reproduced through time?	Burden displacement and present bias

Every substantive claim must then be marked by four qualifiers:

1. Domain: biological, psychological, phenomenological, relational, ecological, economic, institutional, legal, or symbolic.
2. Epistemic status: observation, testimony, interpretation, analogy, causal hypothesis, mechanism, prediction, or normative judgment.
3. Scale: component, organism, person, relationship, community, institution, society, ecosystem, or biosphere.
4. Time: immediate, recurrent, developmental, life-course, intergenerational, or evolutionary.

These qualifiers answer Maturana's warning about confusing reflective domains (Maturana, 2016). A valid biological description does not automatically settle a political norm. A felt experience does not by itself prove a biochemical mechanism. A structural analogy between immune and social systems does not establish ontological identity. Cross-domain synthesis becomes disciplined when both the bridge and its limits are stated.

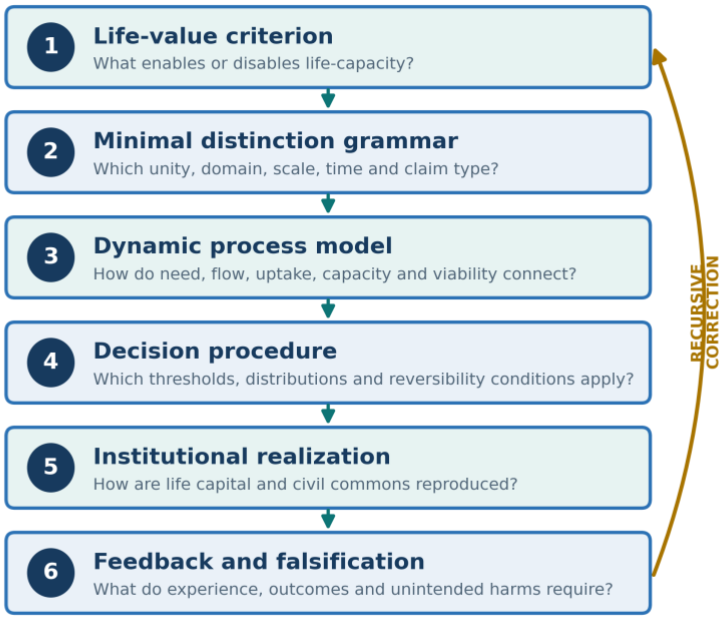


Figure 1. A minimally complete LVOA architecture.

The six layers form a recursive loop: outcomes and disconfirming evidence can revise distinctions, models, decisions, and even the operational interpretation of the criterion.

6. The Dynamic Need–Satisfier–Capacity–Viability Model

6.1 The causal sequence

The central operational sequence is: Need → Satisfier → Provision-flow profile → Access and assimilation → Regulation → Capacity and regenerative margin → Viability trajectory. Each arrow is a research question, not a guaranteed causal link. A nominal satisfier may be unavailable, inaccessible, poorly timed, unassimilated, dysregulating, unequally distributed, or ecologically destructive.

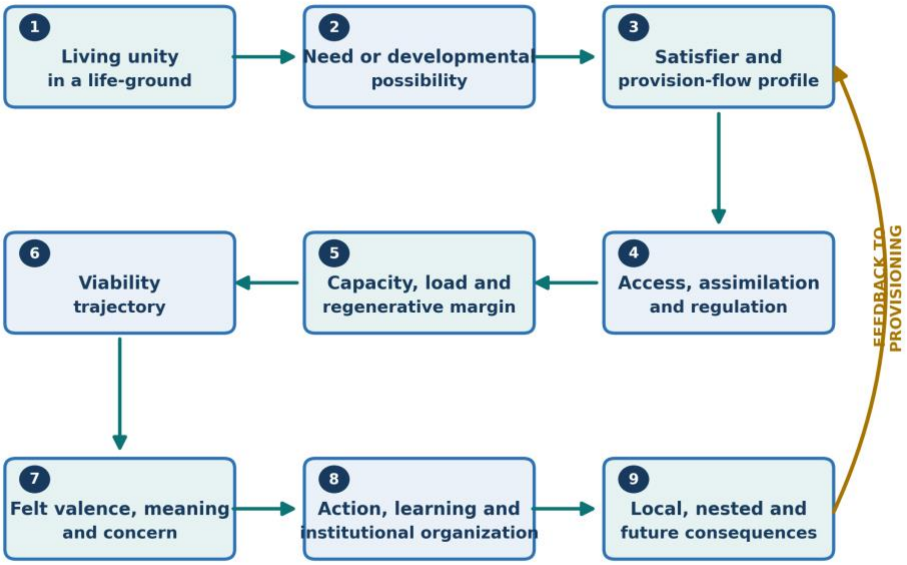


Figure 2. Dynamic process model.

Action and institutions alter both provisioning and the life-ground; consequences feed back into later needs, capacities, meanings, and decisions.

6.2 Why flow is the missing temporal grammar

Needs are often represented as static categories and satisfiers as discrete objects. Living systems, however, persist through temporally patterned flows of matter, energy, attention, affection, information, care, practice, and coordinated action. Water available once is not sustained hydration. A single meal is

not food security. An isolated lesson is not education. One consultation is not continuity of care. A constitutional right without an implementation flow may remain symbolically present but practically absent.

Flow therefore names the temporal organization of provision: quantity, quality, rate, rhythm, timing, duration, continuity, variability, accessibility, and interruption. It also includes the social relations through which provision occurs and the burdens generated upstream and downstream. A stock is a stabilized history of flows. Bodies, skills, trust, infrastructure, soil fertility, public institutions, and knowledge repositories all decay when their constitutive flows are withdrawn or distorted.

This deeper pattern connects domains without equating them. Health depends upon physiological and relational flows; education upon flows of attention, practice, feedback, safety, and meaning; economics upon material and energy flows organized by rules of allocation; governance upon flows of information, authority, accountability, and care. In each case the life-value question is what the flow enables, for whom, at what cost, and with what regenerative consequences.

6.3 Formal scaffold

Let $C^d(t)$ denote available capacity in domain d at time t, $L^d(t)$ the effective load or demand, and $M^d(t)$ the available margin:

$$M^d(t) = C^d(t) - L^d(t)$$

Margin is not merely unused capacity. It is the reserve that permits adaptation, recovery, learning, generosity, and response to disturbance without breakdown. Negative margin predicts danger but does not specify the precise pathology; positive margin indicates room to respond but does not by itself establish flourishing.

Let $F^d(t)$ denote the provision-flow profile, $A^d(t)$ the effectively assimilated provision, $R^d(t)$ regulatory and reparative activity, and $H^d(t)$ accumulated harm. Capacity changes can then be represented schematically as:

$$dC^d/dt = G^d[A^d(t), R^d(t), \text{supported use}] - D^d[L^d(t), H^d(t)]$$

The functions G and D are domain-specific. Nutrition, sleep, social safety, education, ecological regeneration, and fiscal capacity require different operational measures. The equation is therefore a scaffold for model construction, not a universal numerical law.

A life-value assessment should remain vector-valued rather than prematurely collapsing effects into one score. For an intervention x, the relevant object is a profile of changes in capacity, margin, viability, burden distribution, reversibility, and confidence across domains, affected groups, scales, and times. Some

thresholds are non-compensable: severe loss of water, bodily integrity, or ecological habitability cannot be justified simply by adding unrelated gains elsewhere.

6.4 Satisfier taxonomy

Table 3. Operational taxonomy of satisfiers.

Classification depends upon observed trajectories, not intention or commodity labels alone.

Type	Definition	Illustrative pattern
Genuine satisfier	Meets the need and supports durable capacity without major displaced harm	Accessible primary care that prevents deterioration and strengthens self-management
Partial satisfier	Addresses one dimension while leaving important dimensions unresolved	Emergency food relief without stable food access or nutritional quality
Pseudo-satisfier	Produces the appearance or felt signal of satisfaction without resolving the need	Attention capture that simulates connection while increasing isolation
Inhibiting satisfier	Meets one need in a way that obstructs other capacities	Security achieved through surveillance that disables trust and democratic participation
Counter-satisfier	Worsens the original need or creates cumulative dependence and harm	Debt-financed access to necessities that produces dispossession and chronic insecurity

6.5 State, trajectory, phase, and action

The same intervention can be beneficial in one phase and harmful in another. Acute instability may require immediate stabilization; damaged organization may require repair and protected recovery; adequate margin may permit challenge and development. The corresponding action triad is stabilize, repair, develop. It prevents developmental demands from being imposed upon depleted systems and prevents necessary protection from becoming permanent dependency or stagnation.

Clinical examples are obvious: suppressing a dangerous inflammatory process can be necessary stabilization, but suppression alone may not repair the conditions that reproduce illness. The same logic applies institutionally. Emergency income support stabilizes; debt relief, housing remediation, or trust reconstruction may repair; education, democratic participation, and regenerative investment may develop capacity. Good action is phase-sensitive.

7. A Life-Value Decision Procedure

A universal value criterion still requires rules for hard cases. A single aggregate index is attractive but dangerous because it permits severe losses to disappear inside averages, assigns artificial

commensurability to unlike values, and invites gaming. The proposed procedure is threshold-sensitive and lexically ordered.

1. Identify the focal living unities, affected populations, supporting media, and time horizon.
2. Protect universal necessity floors and ecological life-support thresholds.
3. Prevent severe, avoidable, and irreversible life-capacity loss.
4. Restore damaged capacities and regenerative margins before demanding further performance.
5. Enlarge coherently inclusive ranges of thought, felt being, action, relationship, and participation.
6. Test for burden displacement across groups, species, scales, and generations.
7. Prefer arrangements that reproduce life goods and capacities through time.
8. Only after these tests compare cost, efficiency, preference satisfaction, and monetary return.

7.1 Non-compensation and proportionality

The lexical ordering does not abolish trade-offs. It establishes the burden of justification. An intervention that crosses a severe life-necessity threshold must show necessity, lack of less damaging alternatives, proportionality, fair burden distribution, time limitation, monitoring, and repair. Gains to those already secure cannot ordinarily compensate for preventable losses imposed upon those near critical thresholds.

7.2 Uncertainty and precaution

Uncertainty is not a reason for paralysis or rhetorical certainty. Decisions should report confidence, plausible mechanisms, reversibility, monitoring indicators, and triggers for revision. Precaution is strongest where potential losses are catastrophic or irreversible; experimental freedom is greater where interventions are reversible, monitored, and do not expose non-consenting populations to major harm.

7.3 Participation as epistemic infrastructure

Affected participation is not merely a democratic courtesy. It is a method of detecting harms, meanings, barriers, and distributions that external experts may miss. First-person evidence cannot alone establish every causal claim, but institutions that exclude it systematically blind themselves to the felt and practical consequences they produce.

8. Life Capital, Civil Commons, and Institutional Realization

8.1 Life capital

Life capital is organized natural and human-made wealth that produces and reproduces life goods and life-capacities through time without cumulative net life-loss. It includes healthy bodies, caregiving relationships, trustworthy knowledge, soil and water systems, public-health capability, skills, social trust, democratic practices, and resilient infrastructure. Monetary assets may finance life capital, but monetary appreciation does not prove that life capital has grown.

The distinction corrects a deep accounting error. Extracting a forest, exhausting workers, monetizing public knowledge, or undermaintaining water infrastructure can generate financial income while liquidating the conditions of future production and life. True capital must be judged by regenerative consequence rather than ownership form or monetary yield.

8.2 Civil commons

Civil commons are organized social forms through which communities secure access to life goods according to need and shared life protection rather than private purchasing power. They include public sanitation, universal health care, education, libraries, life-protective law, public knowledge, social insurance, ecological stewardship, and community infrastructures. They are not unregulated open-access resources. Their civil character lies in conscious or inherited social organization for universal life enablement.

Civil commons can fail. They may become bureaucratically insulated, colonized by professional or commercial interests, exclusionary toward marginalized groups, or dependent upon ecological burdens imposed elsewhere. Their name therefore does not exempt them from the LVOA decision procedure. A commons remains civil only through demonstrated universal access, life-enabling outcomes, accountability, and regenerative reproduction.

8.3 Life sequence and money sequence

The life sequence organizes means of life to maintain and enlarge living capacities: L → means of life → L^1. The money sequence organizes commodities, labour, nature, and institutions to multiply money claims: M → C → M′. Markets are not rejected simply because money mediates exchange. The structural pathology arises when M′ becomes the sovereign end and life conditions are treated as expendable inputs, externalities, or residual outcomes.

A life-coherent economy therefore asks whether credit, investment, ownership, taxation, pricing, work, and trade secure adequate flows of life goods while preserving regenerative conditions. Efficiency becomes the production and distribution of genuine life goods and capacities with diminishing waste, harm, coercion, ecological throughput, and burden displacement — not the ratio of monetary output to monetary input alone.

8.4 The Life-Knowledge Commons

The appropriate institutional home for further development is a Life-Knowledge Commons: a publicly accessible, versioned, plural, and contestable knowledge infrastructure. It would distinguish McMurtry's original formulations from later extensions; preserve correspondence and publication history; support domain-specific instruments; record counterexamples and failed applications; and include affected communities, researchers, clinicians, educators, ecological trustees, workers, and critical interlocutors in governance.

No individual, discipline, institution, or artificial-intelligence system should become LVOA's sovereign interpreter. AI may assist archival synthesis, comparison, simulation, and drafting, but generated coherence is not evidence. Source transparency, human responsibility, dissent, privacy, and protection against conceptual overproduction are constitutional requirements.

9. Nested Scale, Time, and the Anti-Displacement Test

Life-value judgments fail when they stop at the boundary of the benefiting unit. A profitable firm may transfer pollution to a watershed; a secure state may externalize violence; a high-performing professional may transfer unpaid care burdens to others; a present generation may consume ecological margins needed by future life. Local success can therefore be nested failure.

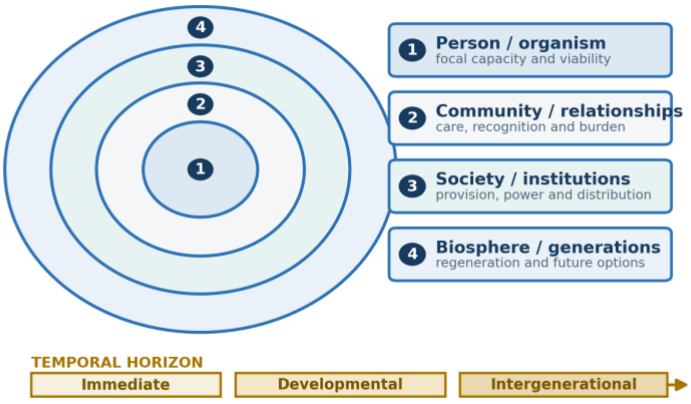


Figure 3. Every life-value judgment is nested across persons, relationships, institutions, ecological systems, and time.

Effects need not be identical at each scale, but none may be silently omitted.

The anti-displacement test asks five questions: Who receives the benefit? Who bears the direct and indirect loads? Which life-support systems are consumed or regenerated? What options are closed for others? What trajectory is reproduced if the arrangement continues? These questions turn externalities from peripheral economic corrections into central life-value evidence.

Nested analysis must also avoid paralysis. No action is consequence-free, and complete information is impossible. The requirement is reasonable scope proportional to the stakes, explicit uncertainty, monitoring, and willingness to revise. The framework judges institutions partly by whether they create channels through which previously invisible consequences can become actionable.

10. Epistemology: How Living Worlds Answer Back

10.1 Three mutually correcting standpoints

LVOA requires an epistemology adequate to its three fields of thought, felt being, and action. First-person evidence includes pain, meaning, fatigue, fear, vitality, agency, and lived barriers. Second-person evidence arises through recognition, testimony, care, dialogue, and participatory interpretation. Third-person evidence includes physiological, behavioural, epidemiological, ecological, economic, and institutional observation. None is sovereign; each can reveal what the others miss.

Third-person measurement without experience can normalize suffering or misclassify adaptive responses. First-person certainty without causal testing can mistake temporal association or cultural interpretation for mechanism. Dialogue without material evidence can conceal structural power. Epistemic adequacy therefore depends upon triangulation, domain discipline, and explicit disagreement. Maturana's account of objectivity likewise requires observers to disclose the explanatory domain in which claims are constituted and warranted, rather than treating observation as a view from nowhere (Maturana, 1988).

10.2 From coherence to causal warrant

Cross-disciplinary resonance can generate hypotheses, but felt or conceptual coherence does not establish ontology. Causal claims require designs appropriate to the question: longitudinal observation, intervention studies, natural experiments, mechanistic measurement, qualitative process tracing, comparative institutional research, or mixed methods. The model should specify predicted changes, temporal sequence, plausible alternatives, confounding, and evidence that would count against it.

The free-energy principle, for example, offers a powerful formal account of perception and action under constraints on viable states (Friston, 2010). It may illuminate self-evidencing and adaptive regulation. It does not by itself prove LVOA's normative criterion or justify direct transfer from neuronal inference to governance. Its use is legitimate when the exact bridge — prediction, regulation, uncertainty, or action — is specified and the political analogy remains defeasible.

10.3 Falsifiable middle-range hypotheses

An ultimate value criterion is not falsified in the same manner as a biomedical prediction, but operational LVOA makes empirical claims that can and must be tested.

Table 4. Illustrative empirical hypotheses and disconfirmation conditions.

Failure should revise the relevant model or classification rather than be redescribed as hidden confirmation.

Hypothesis	Evidence required	Potential disconfirmation
Provision-flow and assimilation profiles predict capacity better than aggregate availability alone.	Longitudinal studies comparing quantity-only measures with timing, continuity, access, uptake, and outcome profiles.	No incremental predictive value; poorer calibration; or unstable associations across settings.
Reduced regenerative margin precedes functional breakdown.	Repeated measures of capacity, load, recovery, symptoms, and later failure across clinical or institutional cohorts.	Breakdown unrelated to measured margin, or margin adding nothing beyond standard risk measures.
Genuine satisfiers create more durable capacity gains than pseudo- or counter-satisfiers.	Comparative trajectories including subjective benefit, function, dependency, burden, and delayed effects.	Classifications fail to predict durability or systematically misclassify beneficial interventions.
Civil-commons provision improves universal-necessity outcomes and equity.	Cross-jurisdictional or natural-experiment studies controlling resources, baseline need, governance quality, and ecological cost.	Comparable or worse outcomes after adequate adjustment, or persistent exclusion and capture.

Hypothesis	Evidence required	Potential disconfirmation
Money-sequence dominance predicts burden displacement and life-capital depletion.	Institutional case studies linking financial incentives to material flows, labour conditions, public costs, and ecological trajectories.	Financial expansion reliably reproduces life capital without significant displaced burdens.
The minimal grammar improves interdisciplinary decisions.	Controlled case reviews, inter-rater reliability, decision quality, stakeholder comprehension, and outcome follow-up.	Greater confusion, lower reliability, no decision improvement, or systematic omission of relevant factors.

11. Domain Applications

Table 5. Translation of the completed LVOA architecture into four institutional fields.

Domain	Dominant life-blind proxy	LVOA design object	Primary evaluative outcome
Health care	Treatment volume, disease codes, short-term biomarker control	Need, exposure, provision, assimilation, repair, capacity, margin, and life-course trajectory	Restored function, agency, resilience, equity, and healthy-life capacity
Education	Testing, credentials, attendance, labour-market sorting	Safe developmental conditions, attention, practice, feedback, meaning, relationship, and capability	Expanded thought, felt being, action, care, creativity, and democratic agency
Economics	GDP, asset values, profit, consumption throughput	Provision and reproduction of life goods, capacities, ecological conditions, and material flows	Sufficiency, distribution, regenerative life capital, and reduced harm per life good
Governance	Procedure, authority, stability, electoral or administrative output	Participatory detection and correction of life-harms through accountable civil commons	Legitimate, nested, evidence-responsive, and future-responsible collective action

11.1 Health care and public health

Health becomes the situated capacity to sustain, recover, and develop meaningful participation — not the absence of coded disease alone. The model directs attention to provision, uptake, cumulative load, restorative margin, developmental history, and organism–niche relations. Allostatic load research demonstrates how protective regulatory processes can become damaging under chronic or poorly terminated demand (McEwen, 1998). Sterling's predictive-regulation model likewise emphasizes anticipatory allocation rather than static set points (Sterling, 2012). LVOA adds the value question: which social arrangements create the loads, distribute recovery opportunities, and enable or disable wider life-capacity? This emphasis on capacity-building is compatible with Antonovsky's salutogenic inquiry into the resources that move people toward health under conditions of stress (Antonovsky, 1987).

Clinical intervention becomes phase-sensitive: stabilize acute danger, repair damaged organization and conditions, then develop capacity where appropriate. Public health extends the unit of analysis to food, housing, work, care, ecology, discrimination, and civil-commons provision. Social determinants are not

background variables but components of the medium through which biological trajectories are produced (Marmot, 2005; WHO Commission on Social Determinants of Health, 2008).

11.2 Education

Education is life-coherent insofar as it enlarges the learner's powers of thought, felt engagement, communication, practical action, relationship, judgment, and democratic participation. Information transfer and credentialing are possible means, not final values. A curriculum that raises scores through fear, exhaustion, narrowing, or exclusion may increase a proxy while reducing educational life-value.

The capacity–load–margin relation distinguishes productive challenge from overload. Learning requires sufficient safety, nutrition, sleep, time, feedback, prior knowledge, meaningful participation, and recovery. Low demand may be stagnation for a well-resourced learner but necessary restoration for a depleted one. Flow states can be educationally valuable, but absorption itself is not the criterion; the question is what the activity develops and what wider conditions it conserves.

11.3 Economics

Economic analysis begins from provisioning: how societies organize material, energetic, caring, informational, and institutional flows so that people can meet universal needs and develop capacities within ecological limits. GDP can remain a contextual indicator, but it cannot serve as the sovereign measure of success because it counts monetary activity regardless of whether it repairs or destroys life capital.

A life-coherent account would measure sufficiency floors, access, quality, continuity, capacity outcomes, distribution, unpaid care, ecological regeneration, coercion, preventable harm, and future-option preservation. Finance is judged as a conditional coordination tool. Credit that mobilizes idle capacity to secure housing, water, health, education, clean energy, or ecological repair may enlarge life capital; credit that inflates asset claims, extracts rents, or accelerates destructive throughput may multiply money while reducing real wealth.

11.4 Governance

Governance becomes collective regulation of shared life conditions under conditions of disagreement, uncertainty, and unequal power. Procedure remains essential, but procedural coherence is not enough. Institutions may hold meetings, follow rules, balance budgets, and issue reports while the harms they administer intensify. Their legitimacy depends upon whether decisions remain answerable to affected life and capable of correction.

A life-coherent governance architecture therefore requires nested decision-making, universal necessity floors, transparent evidence, affected participation, ecological representation, appeal, time-limited emergency powers, burden accounting, outcome monitoring, and repair. Civil commons provide the provisioning organs; democratic processes provide co-authorship and correction; life-value provides the constitutional orientation.

12. Risks, Objections, and Safeguards

12.1 The naturalistic-fallacy objection

The objection is valid against any argument that treats mere biological existence or evolutionary success as morally good. The proposed bridge does neither. It identifies enabling conditions presupposed by agency and value claims, empirically tracks avoidable capacity loss, and submits institutional rules to universalizability and non-displacement. Normative judgment still requires reasons, interpretation, and democratic contestation.

12.2 Anthropocentrism and the standing of nonhuman life

McMurtry's human life necessities provide an indispensable political floor, but a complete program must locate human capacities within ecological life-support systems and recognize nonhuman life as more than an instrument. Different organisms have different forms of capacity and possible value; ecosystems are not unitary subjects in the same manner as organisms, yet their integrity and regenerative functions constitute necessary conditions and organized fields of life. The framework should avoid both crude anthropocentrism and unexamined claims that all living entities possess identical moral standing.

12.3 Aggregation and incommensurability

Life-value effects are multi-dimensional. A single index can aid communication but cannot legitimately erase thresholds, distribution, or irreversible loss. Dashboards, profiles, confidence ratings, and explicit deliberation are safer than an allegedly complete scalar calculus. Where values remain incommensurable, decisions must disclose the unresolved conflict and the power by which one burden is imposed.

12.4 Cultural plurality

Objective need does not imply one culturally uniform satisfier. Food, shelter, education, care, belonging, and meaningful participation take plural forms. The test is whether a form actually prevents deprivation-related capacity loss and enables development without domination. Local knowledge and cultural interpretation are therefore constitutive of good design, while empirical harm remains available as a basis for criticism of any tradition — including modern market culture.

12.5 Institutional capture and metric gaming

Every indicator can become a target and every commons can be captured. Safeguards include independent audit, open data with privacy protection, qualitative testimony, rotating governance, conflict-of-interest disclosure, distributional reporting, appeal, and periodic retirement of measures that no longer track their intended life outcomes. The model must monitor what institutions learn to hide.

12.6 Totalization and interpretive sovereignty

The greatest philosophical danger is that LVOA's breadth becomes a warrant to absorb all other knowledge or classify critics as life-blind. The minimal grammar is designed to prevent that move. It obliges the user to state domain, evidence, mechanism, limits, and possible disconfirmation. A framework that cannot be corrected by the lives and disciplines it addresses is not life-coherent.

13. Research Program for Empirical Completion

The constitutional architecture is now sufficiently specified to shift effort from further universal synthesis toward disciplined construction, testing, and revision. Five workstreams are proposed.

13.1 Canonicalization and critical edition

Produce a concise canonical statement that separates McMurtry's original concepts from later extensions, alongside a critically curated Sahely–McMurtry correspondence. The edition should preserve source identity, distinguish direct text from forwarded material, annotate changes of position, protect third-party privacy, and invite commentary from qualified interlocutors rather than presenting an undifferentiated archive.

13.2 Need–Satisfier–Capacity instruments

Develop domain-specific instruments measuring need, satisfier type, access, provision flow, uptake, load, capacity, margin, trajectory, and nested cost. Nutrition and metabolic health, and rest and chronic fatigue, are suitable paradigm cases because they permit integration of subjective experience, behavioural patterns, physiological measures, social conditions, and longitudinal outcomes.

13.3 Comparative institutional pilots

Test whether LVOA adds decision value in clinical formulation, public-health dashboards, water governance, education design, public credit, and life-coherence review of law and policy. Each pilot should compare the framework with established methods, report incremental value and burden, and publish negative findings.

13.4 Adversarial research

Invite investigators who do not share LVOA's premises to design counterexamples and tests. Priority questions include whether necessity classifications travel across cultures, whether margin predicts outcomes beyond existing resilience measures, whether civil commons outperform alternative provisioning under matched conditions, and whether the anti-displacement rule yields determinate or merely rhetorical guidance in hard cases.

13.5 Life-Knowledge Commons governance

Create a plural governance charter specifying provenance, versioning, disagreement, AI use, privacy, authorship, community participation, correction, and the retirement of failed concepts. The commons should publish not only successful applications but model revisions, harms, unresolved conflicts, and known limits.

Table 6. Research workstreams required for empirical rather than merely conceptual completion.

Workstream	Primary output	Completion test
Canonicalization	Short constitutional statement, glossary, and critical correspondence edition	Terms are attributable, teachable, criticizable, and not silently conflated
Instrument development	Validated Need–Satisfier–Capacity profiles in paradigm domains	Reliable measurement, predictive or decision value, and transparent limits
Institutional pilots	Clinical, educational, economic, water-governance, and policy prototypes	Improved life outcomes or decision quality without disproportionate burden
Adversarial testing	Independent replications, counterexamples, and failure reports	Operational claims survive, narrow, or are retired according to evidence
Commons governance	Versioned public repository with plural oversight	Corrections remain possible; no actor becomes sovereign interpreter

14. Conclusion: Complete Enough to Be Tested, Open Enough to Learn

LVOA began from a civilizational diagnosis: modern ruling systems can become exquisitely coherent around money, institutional power, and technical performance while remaining blind to the life conditions they consume. McMurtry's decisive contribution was to restore a universal measure: what enables or disables more coherently inclusive ranges of thought, felt being, and action.

The present reconstruction supplies the missing operational middle. Life is understood as organized dependence within a medium. Need arises where deprivation or dysregulation causes capacity loss. Satisfiers acquire value only through actual provision, access, assimilation, regulation, and consequence. Flow supplies the temporal grammar. Capacity and regenerative margin explain reserve and possibility. Viability trajectory integrates state through time. Significance, valence, and reflective meaning connect

objective conditions to lived concern without collapsing experience into mechanism. The minimal grammar disciplines cross-domain reasoning; the decision procedure protects necessity floors and exposes displacement; life capital and civil commons translate value into reproducible institutional form.

In this restricted but important sense, the LVOA program can now be called conceptually complete. It possesses an ontology, axiology, epistemology, causal scaffold, evaluative procedure, institutional logic, research methodology, and self-correction rule. What remains is the work that no philosophy can complete in advance: measurement, experiment, comparison, contestation, interpretation, repair, and historical practice.

The deepest completion is therefore not closure but answerability. Life-value is not a label deposited in isolated things. It is the difference made within the ongoing processes through which living beings receive their conditions, transform them into capacities, experience what those differences mean, and reorganize their shared world so that life may continue and more coherently flourish.

THE SAHELY METHODOLOGICAL TRIALITY

1. Does this protect, restore, or enlarge life? 2. What evidence would genuinely change our minds? 3. Never fall in love with coherence more than reality.

Appendix A. Proposed Canonical Statement

Life-Value Onto-Axiology is the transdisciplinary study and practical governance of the conditions, processes, and relationships through which living beings satisfy objective needs, maintain regenerative capacity, experience significance, develop their powers of thought, felt being, and action, and reproduce these possibilities across persons, societies, ecosystems, and generations.

Living coherence is the dynamic coordination of diverse processes such that necessary life conditions, differentiated capacities, and regenerative margins are maintained or enlarged across nested scales and through time. Coherence does not mean uniformity, equilibrium, or absence of conflict. Living systems require differentiation, variation, tension, adaptation, and renewal.

Life-coherent inquiry identifies the focal living unity and its medium; distinguishes needs from satisfiers and preferences; assesses load against capacity and margin through time; separates event, meaning, mechanism, and value; distinguishes intention from function and outcome; evaluates local, nested, and future consequences; acts proportionately to stabilize, repair, and develop capacity; and remains open to correction by evidence and affected life.

The Primary Axiom remains constitutional: X is valuable insofar as it enables a more coherently inclusive range of thought, felt being, and action than without it. Its operational corollary is that an apparent gain is not a net life-value gain when it depends upon avoidable equal or greater loss of necessary life conditions, life-capacities, or regenerative margins elsewhere or later.

Appendix B. Research and Communication Protocol

Table 7. Minimal protocol for introducing an interdisciplinary bridge or operational LVOA claim.

Protocol field	Required question
Domain	What field of phenomena is being discussed?
Focal unity	What living, relational, institutional, or ecological unity is the referent?
Need and capacity	What objective need, capability, load, and margin are at issue?
Epistemic status	Is this an observation, testimony, interpretation, analogy, hypothesis, mechanism, prediction, or norm?
Existing LVOA principle	Which established life-value concept already applies?
Proposed addition	What new distinction, mechanism, measure, prediction, or intervention is supplied?
Bridge and limits	What is being compared across domains, and what is not being equated?
Evidence	What supports the claim, and what would weaken or falsify it?
Nested consequence	Whose capacities change locally, elsewhere, and through time?
Action relevance	What changes in diagnosis, policy, or practice if the claim is true?
Relational safeguard	Has criticism remained directed at claims and consequences rather than the worth of persons?

References

Antonovsky, A. (1987). Unraveling the mystery of health: How people manage stress and stay well. Jossey-Bass.

Deacon, T. W. (2011). Incomplete nature: How mind emerged from matter. W. W. Norton.

Di Paolo, E. A. (2005). Autopoiesis, adaptivity, teleology, agency. Phenomenology and the Cognitive Sciences, 4(4), 429–452. https://doi.org/10.1007/s11097-005-9002-y

Doyal, L., & Gough, I. (1991). A theory of human need. Macmillan.

Friston, K. (2010). The free-energy principle: A unified brain theory? Nature Reviews Neuroscience, 11(2), 127–138. https://doi.org/10.1038/nrn2787

Marmot, M. (2005). Social determinants of health inequalities. The Lancet, 365(9464), 1099–1104. https://doi.org/10.1016/S0140-6736(05)71146-6

Maturana, H. R. (1988). Reality: The search for objectivity or the quest for a compelling argument. The Irish Journal of Psychology, 9(1), 25–82. https://doi.org/10.1080/03033910.1988.10557705

Maturana, H. R. (2016). Confusion of reflective domains? Constructivist Foundations, 11(2), 213–214. https://constructivist.info/11/2/213

Maturana, H. R., & Varela, F. J. (1980). Autopoiesis and cognition: The realization of the living. D. Reidel.

Maturana, H. R., & Varela, F. J. (1987). The tree of knowledge: The biological roots of human understanding. Shambhala.

Max-Neef, M. A., Elizalde, A., & Hopenhayn, M. (1991). Human scale development: Conception, application and further reflections. Apex Press.

McEwen, B. S. (1998). Protective and damaging effects of stress mediators. New England Journal of Medicine, 338(3), 171–179. https://doi.org/10.1056/NEJM199801153380307

McMurtry, J. (1978). The structure of Marx's world-view. Princeton University Press.

McMurtry, J. (1998). Unequal freedoms: The global market as an ethical system. Kumarian Press/Garamond Press.

McMurtry, J. (2002). Value wars: The global market versus the life economy. Pluto Press.

McMurtry, J. (Ed.). (2011). Philosophy and world problems (Vols. 1–3). EOLSS Publishers. https://www.eolss.net/outlinecomponents/philosophy-world-problems.aspx

McMurtry, J. (2013). The cancer stage of capitalism: From crisis to cure (2nd ed.). Pluto Press/Fernwood Publishing.

McMurtry, J. (2018). Explaining Life-Value Onto-Axiology: The Primary Axiom of Life Value and the universal human life necessities and principles of their provision. Toward Life-Knowledge. https://bsahely.com/2018/02/14/the-primary-axiom-of-value-universal-human-economy/

Noonan, J. (2006). Democratic society and human needs. McGill-Queen's University Press.

Noonan, J. (2012). Materialist ethics and life-value. McGill-Queen's University Press. https://doi.org/10.1515/9780773590953

Nussbaum, M. C. (2011). Creating capabilities: The human development approach. Harvard University Press.

Ostrom, E. (1990). Governing the commons: The evolution of institutions for collective action. Cambridge University Press.

Sahely, B. (2026). From life-value to living coherence: The Sahely–McMurtry correspondence, the unfinished operationalization of Life-Value Onto-Axiology, and a minimal grammar for its completion. Unpublished academic white paper.

Sahely, B., & McMurtry, J. (2016–2021). Sahely–McMurtry Correspondence Archive [Private correspondence].

Sen, A. (1999). Development as freedom. Alfred A. Knopf.

Sterling, P. (2012). Allostasis: A model of predictive regulation. Physiology & Behavior, 106(1), 5–15. https://doi.org/10.1016/j.physbeh.2011.06.004

Thompson, E. (2007). Mind in life: Biology, phenomenology, and the sciences of mind. Harvard University Press.

Varela, F. J., Thompson, E., & Rosch, E. (1991). The embodied mind: Cognitive science and human experience. MIT Press.

Weber, A., & Varela, F. J. (2002). Life after Kant: Natural purposes and the autopoietic foundations of biological individuality. Phenomenology and the Cognitive Sciences, 1(2), 97–125. https://doi.org/10.1023/A:1020368120174

World Health Organization Commission on Social Determinants of Health. (2008). Closing the gap in a generation: Health equity through action on the social determinants of health. World Health Organization. https://iris.who.int/handle/10665/43943

Acknowledgments and AI Transparency

This white paper builds upon John McMurtry's published work, the Sahely–McMurtry correspondence, and subsequent interdisciplinary inquiry by Bichara Sahely. ChatGPT (OpenAI) assisted with conceptual comparison, source verification, synthesis, drafting, formalization, document design, and editorial review. The human author retains responsibility for interpretation, source use, argument, and publication. AI-generated coherence is treated as a hypothesis-generating and editorial aid, not as evidence or authority.