Scientific Recognition Architecture

Operational Specification — Version 1.0
Laboratory of Military Ecotones
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Slide 1 Scientific Recognition Architecture Operational Specification — Version 1.0

00:00–00:56 / 56 seconds

This presentation introduces a research architecture that we are putting into practice. Our criticism of scientific organisation has a constructive consequence. We are developing an explicit way to investigate complex environmental processes when the available explanations remain immature. The operational specification is already published. The larger book remains unfinished, with a substantial draft. Today I present the published version and its applications. The Laboratory of Military Ecotones uses this approach in developing the theory of military ecotones. It also informs our work with artificial intelligence and the organisation of two laboratories. The purpose is concrete: keep the empirical object visible as questions, relationships and explanations change. A conference overview will introduce this contribution collectively. This full presentation records the approach and gives a route to its published operational provisions.

Slide 2 The object develops before the explanation

00:56–01:52 / 56 seconds

The problem begins with a mismatch between the development of an empirical process and the organisation of its investigation. War changes a territory. Materials move, previous activities stop, infrastructure fails, and new relationships emerge. Researchers may possess precise measurements of particular components while lacking an adequate account of their combined development. Dividing the work among disciplines does not automatically repair that gap. Nor does completing a funded project. A project can finish while the process continues and the important questions remain unanswered. Our specification addresses objects of this kind. It asks how investigation can continue before a sufficiently mature explanatory theory becomes available. The practical failure we want to prevent is reduction of the object to whatever an existing discipline, dataset or administrative programme already knows how to handle.

Slide 3 Scientific Recognition

01:52–02:46 / 54 seconds

Scientific Recognition has a specific meaning here. It means progressively making the investigated object scientifically recognisable. It includes recognising what belongs to the process, where its boundaries lie, which relationships matter, and what remains uncertain. The term does not mean prestige, citation counts or professional recognition of researchers. It also does not mean

accumulating a larger collection of data without organising their relationships. The pre-theoretical domain contains existing theories, practical experience and competing hypotheses. What it lacks is a sufficiently mature explanation of this developing object. We therefore retain theories as resources while refusing to let one of them define in advance everything that can be observed. Explanation develops through recognition and returns to the object for further verification. Recognition continues throughout that work.

Slide 4 Object priority and explanatory control

02:46–03:40 / 54 seconds

The specification establishes object priority. Research organisation must follow the developing empirical object, including changes that exceed the original questions. Disciplinary expertise remains essential. A chemist should not abandon chemistry, and a hydrologist should not abandon hydrology. Their results must nevertheless enter a common investigation of the same process. No discipline acquires automatic explanatory priority. Neither does an explanation gain priority because someone proposed it first, because a prestigious institution supports it, or because funding follows it. These are operational rules with consequences for participation and decision making. They do not declare every hypothesis equally credible. An explanatory possibility must correspond to the recognised empirical object. When that correspondence fails, the project must revise or reject it. Our own theory is subject to that requirement.

Slide 5 The operational sequence

03:40–04:36 / 56 seconds

The architecture specifies a continuing sequence of operations. Observations enter a domain where explanation remains incomplete. Scientific Recognition organises this material and makes uncertainty explicit. Scientific Navigation determines what the investigation should do next. Recognised relationships develop into a relational field. That field supports recognition of process morphology: the organisation of the process through space, time and interacting components. Empirically grounded explanatory possibilities develop within it. A scientific explanation becomes justified when recognition sufficiently supports it, and the explanation returns to the object for verification. The table groups these operations for presentation. It does not replace the numbered specification or turn the process into a one-way pipeline. New observations may change the boundaries, overturn a relationship or reopen an explanation. The architecture preserves the continuity needed to handle those changes.

Slide 6 Scientific Navigation and the research record

04:36–05:33 / 57 seconds

Scientific Navigation means deciding the next direction of investigation in response to the current state of recognition. The reason for changing direction must remain inspectable. An observation therefore retains its source and, where available, its location, time and methodological context. A proposed relationship distinguishes association from causal inference. Contradictions remain visible until the investigation resolves them. Missing information remains missing. It cannot silently become evidence that a process did not occur. Changes in uncertainty also become research information. A study may eliminate one uncertainty while exposing a more consequential one. The project record preserves changes in the object, questions and explanations, including abandoned directions and

negative or inconclusive results. This record makes later reasoning possible. It also prevents a polished final account from erasing the route through which the investigation actually developed.

Slide 7 Participation and operational readiness

05:33–06:32 / 59 seconds

Participation requires more than a disciplinary qualification. The specification requires acceptance of the common cognitive architecture before entering a project conducted under it. That acceptance does not require agreement with a particular scientific explanation. Researchers may disagree while sharing rules for observation, uncertainty and revision. Training must demonstrate operations. Can a participant distinguish an observation from an inferred relationship? Can that participant preserve uncertainty without disguising it as a conclusion? Can a changed empirical object produce a changed interpretation? Repeating the vocabulary is insufficient. Operational readiness depends on reproducible performance. Integration also occurs continuously. A disciplinary team cannot simply deliver its report at the end and assume that someone else will reconstruct the whole object. The contribution must state what it adds to Scientific Recognition and enter the common relational field while the investigation proceeds.

Slide 8 Version control and operational review

06:32–07:27 / 55 seconds

Version control protects traceability. A project identifies the specification version it accepts at entry and does not silently change that version during its operation. Difficulties and deviations are recorded. Experience can support a subsequent version, while earlier versions remain identifiable. A newer version is not automatically superior. Specialised specifications identify their general source and make departures explicit. Authorised language implementations preserve the numbered operational meaning. Operational review then examines whether practice corresponds to the applicable provisions. It distinguishes demonstrated or partial implementation, contradiction, insufficient evidence and non-applicability. This is an audit of research organisation. Compliance alone cannot establish scientific truth. A justified deviation may teach us more than formal obedience. If the architecture obstructs recognition, it must change. Preserving the architecture is never an independent scientific objective.

Slide 9 Application to the theory of military ecotones

07:27–08:27 / 60 seconds

The theory of military ecotones provides a substantive application. It begins with war as a change in the operating regime of a territory. Peaceful functions can undergo functional inversion. A road, reservoir or agricultural field enters a different system of uses and pressures. Consequences can remain latent or become sensitive to later triggers. Boundaries depend on carriers and can change through time. Chemical contamination is important within this object, alongside interrupted maintenance, depopulation, altered land use and new exposure pathways. The published paradigm develops concepts for describing these relationships and trajectories. The Recognition Architecture provides the organisation within which that theory develops. We keep the distinction between the empirical object and the theory describing it. Protocols preserve the formation and rejection of concepts so that a later definition does not conceal the problems it was designed to solve.

Slide 10 Soil after war as a configurational object

08:27–09:25 / 58 seconds

The soil protocol makes the application more concrete. Soil becomes a component of a military ecotone through changes in the conditions of its functioning and development. Detecting a military chemical is one possible part of that change. The object also includes its pre-war history, destruction, new substances and energy, cessation of earlier impacts, and altered relations with water, biota and human activity. This configuration develops through time. The protocol proposes groups of indicators, research polygons and hypothesis–evidence relationships. Its intended result is an open dynamic profile rather than a final description detached from subsequent change. Standards, permissions and public perceptions remain separately identifiable layers. They cannot replace the actual state of the soil. Here the general architecture supports a specialised theoretical position and an empirical programme through which that position can face testing.

Slide 11 Cognitive organisation of expert–AI research

09:25–10:21 / 56 seconds

Work with AI makes explicit cognitive organisation especially important. A system can produce coherent language without establishing that its relationships correspond to the object. Our approach therefore organises the work around research operations. AI assists comparison of heterogeneous records, reconstruction of possible relationships and generation of hypotheses. The record preserves sources, questions, changes in concepts and rejected alternatives. Derived material remains distinguishable from source information. The expert must evaluate what a claim actually establishes and identify the observation that could change it. This is the cognitive novelty we are developing: a shared, recorded process of recognition capable of continuing beyond a single exchange or document. It does not depend on a particular model. Its value depends on the research operations it supports and on subsequent contact with empirical evidence.

Slide 12 Two laboratories and a common research approach

10:21–11:18 / 57 seconds

Two laboratories give this approach an organisational form. The Laboratory of Military Ecotones concentrates on territories and environmental processes affected by military activity. Its functions include field observation, sampling, mapping and methodological development. The Laboratory of Information Systems preserves and organises complex information, including provenance, multilingual records and derived analysis. Their charters identify separate functions and describe cooperation. A joint project retains responsibilities rather than dissolving them into an undefined interdisciplinary team. Field observations can alter an information model. Information reconstruction can identify what a field team should test next. We organise their cooperation through the approach presented here. The charters establish an operational basis, while actual projects must demonstrate its implementation. Scientific conclusions remain accountable to evidence, including when the laboratory works for a sponsor with practical or commercial objectives.

Slide 13 Recognition of a new contamination object

11:18–12:12 / 54 seconds

Fiber-optic drone tether debris illustrates recognition of an emerging object. The paper identifies polymer-coated optical fibre remnants dispersed through conflict landscapes and proposes a separate contamination category. Their filamentous form and distribution matter to the environmental questions. A generic label for military waste would lose those properties. The published photograph supplies visual documentation of material presence. It cannot establish prevalence, toxicity or the rate of transformation. The article develops a conceptual framework and possible pathways, including fragmentation of polymer coatings into microfibers. It reports no direct field sampling or laboratory analysis of this material. The example therefore shows what recognition contributes before a mature explanation exists. It makes a neglected object describable and formulates a research programme. The proposed impacts remain questions for empirical investigation.

Slide 14 Field verification and discriminatory observations

12:12–13:09 / 57 seconds

Field verification converts an organised information field into empirical research. The published field-verification paper makes a decisive point: access to a site does not establish a representative sampling design. Site selection must follow the process being investigated and the purpose of the observation. An observation might distinguish competing hypotheses, establish a baseline, reveal a transition or document temporal development. The proposed programme combines reference stations, verification sites, experimental polygons, repeated observation and pilot studies. AI can help compare candidate locations and reconstruct possible transport pathways. It cannot certify representativeness or replace sampling and laboratory analysis. For the tether example, material characterisation, mapped distribution and repeated measurements would test the proposed transformation pathways. These are proposed tasks, not completed findings. Research should state its spatial and temporal limits and describe exploratory observations honestly.

Slide 15 Published foundations and applications

13:09–14:05 / 56 seconds

The sources identify the different levels of this work. The operational specification defines the common cognitive architecture and its review rules. The military-ecotone paradigm develops the theoretical object. The soil protocol specifies a research direction within that theory. The field-verification paper explains the transition from organised information to purposeful observation. The two charters define complementary organisational functions. The fibre-optic debris paper supplies an example of recognising an emerging contamination object and setting out an empirical agenda. Publication of these materials makes the approach available for examination. It does not itself demonstrate successful field implementation or establish every proposed environmental pathway. The unfinished book expands the exposition. Its completion is a separate task. The published specification already provides numbered provisions against which a project can document what it actually does.

Slide 16 A research approach open to empirical revision

14:05–15:00 / 55 seconds

Our contribution includes a theoretical and methodological approach with explicit operational commitments. We organise research so that the object can change without disappearing behind the original disciplinary categories or project plan. We preserve uncertainty, trace changes in reasoning and connect explanatory possibilities with the observations needed to examine them. Military-ecotone theory, the soil protocol and expert–AI work provide applications. The laboratories provide an organisational basis. The approach must now accumulate examinable experience from research practice. We will need to show what became recognisable, which explanations changed, which uncertainties remained and which provisions helped or obstructed investigation. Criticism alone cannot supply that record. Our own approach must produce it. Version 1.0 gives us an identifiable starting point and a standard that we can test, document and revise.

Published foundations and applications

Nikolaenko, D. (2026). Scientific Recognition Architecture. Operational Specification — Version 1.0. Pollution and Diseases 2, 147–167. DOI: 10.66659/q52haz36.
https://pollution-diseases-ojs.org/index.php/pd/article/view/61

Nikolaenko, D. (2026). The Paradigm of the Military Ecotone. DOI: 10.66659/nhzds093.
https://pollution-diseases-ojs.org/index.php/pd/article/view/92

Nikolaenko, D. (2026). Soil after War as a Configurational Object of the Military Ecotone. Protocol for Developing a Theory for the Study of Soil Transformed by War. Version 1.0. DOI: 10.66659/84a13358.
https://pollution-diseases-ojs.org/index.php/pd/article/view/94

Laboratory of Military Ecotones (2026). Field Verification in the Scientist–AI System: From Pathological Uncertainty to Quality Data. DOI: 10.66659/2qwv2037.
https://pollution-diseases-ojs.org/index.php/pd/article/view/79

New Euro Vision: exhibitions, marketing, research s.r.o. (2026). Laboratory of Military Ecotones. Charter. DOI: 10.66659/tykjpc41.
https://pollution-diseases-ojs.org/index.php/pd/article/view/71

New Euro Vision: exhibitions, marketing, research s.r.o. (2026). Laboratory of Information Systems. Charter. DOI: 10.66659/j7j67v06.
https://pollution-diseases-ojs.org/index.php/pd/article/view/73

Nikolaenko, D. (2026). Fiber-Optic Drone Tether Debris (FODTD) as an Emerging Form of War-Related Environmental Contamination. DOI: 10.66659/swfqsz58.
https://pollution-diseases-ojs.org/index.php/pd/article/view/13

Source status and illustration credit

The presentation summarises the published operational specification and its conceptual applications. The laboratory charters document organisational functions rather than demonstrated project results. Current use of the approach and the unfinished-book status come from Dmitry Nikolaenko’s account. The book draft was not supplied or used as a textual source. Article 13 reports no direct field sampling or laboratory analysis of tether debris. Proposed pathways and field tasks remain subjects for testing.

Slide 13 reproduces Figure 2 of article 13. The article identifies a public Reddit photograph as its source: https://www.reddit.com/r/interestingasfuck/comments/1l082je/photo_of_a_field_in_the_ukrainian_war_zone/ . The photograph supplies visual documentation without independently establishing location, prevalence or environmental effects. The QR code on slide 16 links to the published specification, article 61.