Long-Term War-Induced Transformations of Settlement and Land-Use Systems

Regimes of Scientific Recognition and Research Patterns

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Dear colleagues,

In this presentation, I discuss how to investigate long-term changes in settlement and land-use systems associated with war. These changes unfold under complex historical conditions. A single territory may experience successive wars, deportations, resettlement, economic reforms and major infrastructure projects. Each case has many distinctive features. How can we organise research so that this complexity becomes open to scientific understanding?

My main proposition is that the uniqueness of a situation is compatible with systematic investigation. We need to reconstruct the object over time, connect evidence about its different aspects and test possible explanations. Crimea provides material for asking these questions. The proposed approach may also prove useful in other territories.

Researchers usually have several separate groups of evidence. Censuses show population numbers. Maps record settlements. Economic statistics describe land use. Documents about war record destruction and population movements. These sources refer to different dates, territories and administrative categories. Bringing them together requires careful reconstruction.

Even strong studies of individual aspects may leave open the question of how the territorial system has changed as a whole. A settlement survives, while its residents, economic functions and connections with surrounding land change. Recording the village's continued presence alone leaves an important part of the transformation outside the description.

This brings us to the concept of regimes of scientific recognition. I use the term to describe historically situated conditions under which certain problems become scientific objects, evidence becomes connected, and some long-term consequences remain fragmented or invisible.

For our study, this raises specific questions. How does the literature define the consequences of war? Where does it place the temporal boundary of investigation? Which sources does it connect? Does it treat population replacement, changing land use and reorganised water supply as parts of a common problem?

We need to establish the answers by examining publications themselves. We should define a body of literature and compare its questions, periods, sources and explanations. The absence of a topic does not by itself demonstrate deliberate exclusion. It may reflect a study's purpose or the unavailability of evidence.

Research patterns here can mean recurring ways of asking questions and organising evidence. A study limited to population losses during wartime and a study tracing settlement functions over several decades produce different descriptions. Comparing them helps establish which aspects of territorial change each approach makes accessible. The history of investigation itself thus becomes part of the methodological analysis.

The first research operation is a long-duration historical reconstruction of one territorial system. For Crimea, the proposed research horizon extends from the mid-nineteenth century to the present. This timescale allows us to investigate cumulative changes and the persistence of consequences from earlier events.

A long history still requires distinctions among wars, deportations, resettlement and economic projects. Their mechanisms differ. We need to establish which connections between events have evidential support and which remain hypotheses. Changing boundaries, settlement names and statistical units also require reconciliation. Otherwise, a difference between two maps may reflect a change in recording practices rather than a change in settlement.

How should we work while the overall explanation remains incomplete? The publications on scientific recognition architecture propose organising investigation around the developing empirical object. Disciplinary knowledge and existing theories help formulate questions and possible mechanisms. Investigation progressively clarifies which observations belong to the object, which relationships have support and where its boundaries lie.

For settlement and land-use systems, I propose using this logic as a methodological possibility that requires evaluation. The architecture was developed primarily for complex dynamic objects, including long-term military contamination. Applying it to historical territorial transformations requires adaptation. Its useful starting principle is that the organisation of research should follow the problem under investigation.

The second operation connects evidence at the level of a particular place. We can select a rural settlement and trace its relations with surrounding fields, roads and water infrastructure. Those connections help define the study's scale. The village's administrative boundary may be too narrow if it depends on a canal or service centre beyond it.

Microgeography permits precise questions. Who lived here in different periods? Who used the land? Which services did the settlement provide? Who maintained the infrastructure? We then place local evidence within regional processes. One village allows detailed investigation of relationships. Establishing how widespread a mechanism is requires additional settlements.

Every piece of evidence should retain its context: source, date, location and the limits of what it can establish. A map records a settlement's representation at a particular time. A land register describes a recorded right. A satellite image shows surface conditions. Each source answers only some questions about how a territory functions.

Local accounts may identify who maintained a pond or where an old drainage system ran. They are particularly valuable for investigating the loss of local knowledge. We should compare them with documents and material traces. Contradictions between sources should remain in the research record, because they may reveal different periods, practices or ways of describing the same place.

The third operation distinguishes observation, association and causal explanation. Suppose documents show a population decline and images show that cultivation stopped on some fields. These are two observations. Their temporal coincidence raises a question about a possible relationship. A causal explanation requires investigating how the departure of residents affected farming.

Workers and land users may have disappeared. Irrigation maintenance may have stopped. Cultivation could also have ceased because of restricted access, market change or agricultural

reorganisation. We need to identify which evidence would distinguish these possibilities. The date of an event alone cannot establish the mechanism of subsequent change.

The fourth operation is comparison and the testing of an explanation's scope. Distinctive cases become comparable when we ask common questions. Do residence, ownership and land use coincide? Does the maintenance system still operate? How have the settlement's functions changed?

Contrasting cases are also useful. We might compare territories with similar population displacement but different dependence on irrigation, or settlements with comparable population decline but different agricultural conditions. Such comparisons help test the significance of particular circumstances. The same visible form, such as an overgrown field, may have different causes. Scientific generalisation should specify the conditions under which an explanation holds.

We should explain the basis for selecting comparison cases in advance. Selecting only settlements where the expected relationship already appears would weaken the investigation. We also need cases where a similar disturbance produced a different outcome. If agriculture continued after substantial population displacement, that is useful evidence for examining maintenance, new land users and the organisation of production. It helps refine the initial hypothesis and define its limits.

Let us illustrate the approach with a simple analytical example. This is a research design, rather than a report of findings from a particular village.

Suppose a settlement appears on maps before and after war. The initial conclusion is limited: the settlement continues to be recorded. We then need to investigate whether its residents remained, whether its boundaries changed and which functions it performs. Settlement registration, human residence and the operation of local agriculture are different characteristics.

For the Crimean material, questions about population continuity, renaming and subsequent economic reorganisation are especially relevant. Investigating them requires matching historical names and locations with evidence about residents and the use of surrounding land.

The next step is a history of land use and maintenance. Who cultivated the fields in different periods? Did residents, owners and land users coincide? Where did the water come from? Who cleared canals, repaired roads and maintained ponds?

The idea of accumulated territorial capital is useful here. It directs attention to the labour and knowledge needed to sustain rural space. We still need specific indicators to establish their loss. Population replacement does not automatically prove the disappearance of all skills, and an overgrown field does not establish ecological degradation. We need to determine which practices stopped, which continued and which emerged.

If we establish that cultivation stopped, we reach a specific choice of research direction. A labour-shortage hypothesis requires evidence about farms and employment. An irrigation-interruption hypothesis requires documents and observations about the water system. An access-restriction hypothesis requires evidence about routes and restrictions in force.

Uncertainty now acquires a structure. We can state what has been established, which explanations remain possible and which next observation would help test them. The approach becomes productive through its capacity to justify the next step of investigation.

Each hypothesis should allow evidence that would weaken it. If canal maintenance continued and water reached the fields, an explanation based on the loss of irrigation would require revision. If cultivation stopped before population displacement, the proposed causal sequence would also need to change. Testing includes searching for such discrepancies. A new observation may require revising the object's boundaries or bringing in additional disciplinary expertise.

What can this work produce? First, a reconstruction of change in a particular territorial system, with sources and gaps clearly identified. Second, documented relationships among findings previously considered separately. Third, possible explanations with an explicit account of their evidential status.

The morphological approach helps recognise persistent spatial relationships and recurring combinations of change. The pattern itself still requires explanation. Moving from a case to a broader understanding involves comparing mechanisms, conditions and evidence. One detailed case can support the formulation of an explanation that subsequent research tests against other material.

In conclusion, I would emphasise three propositions.

First, long-duration reconstruction makes cumulative territorial change open to investigation while preserving distinctions among historical events.

Second, scientific recognition develops as evidence about population, land and infrastructure becomes connected around a common research object.

Third, the uniqueness of a case permits the testing of explanations. Common questions allow us to compare different situations and establish the conditions under which a proposed mechanism operates.

The result is a testable reconstruction, justified relationships and a clear account of further research tasks. In this presentation, Crimea provides material for developing this approach to long-term transformations of settlement and land-use systems.

Thank you for your attention.

Sources for the presentation

Tymoshenko A. Long-Term War-Induced Transformations of Settlement and Land-Use Systems: Regimes of Scientific Recognition and Research Patterns (2026). https://doi.org/10.66659/sq5wbm78

Nikolaenko D. Scientific Recognition Architecture. Operational Specification. Version 1.0 (2026). https://doi.org/10.66659/q52haz36

Nikolaenko D. From Scientific Recognition to Scientific Explanation: Organising Investigation of Long-Term Military Environmental Contamination (2026). https://doi.org/10.66659/db5ekw49

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After War: Territory, Rural Settlement, Memory, Soil and Water. Working conceptual text supplied for this presentation.

The source list is not part of the oral presentation.