Artificial Intelligence and Research on the Consequences of War

Thematic overview of eight papers and preparation for project implementation

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Overview 2 · 20-minute thematic overview · English

Slide 1 Opening

Speaker text · 0:00–1:00

The eight contributions in this session prepare a common research programme. They address how a small international team can use artificial intelligence to investigate the long-term environmental consequences of war, while keeping its conclusions open to examination and correction.

The central question is how to prepare the scientist–AI system for actual project work. We need a defined problem, accessible sources, competent participants and procedures that connect interpretation with verification. The proposed investigation using Vietnamese archives gives these requirements a concrete setting.

I will identify the contribution of each paper, explain their common logic and state our commitment to preparing the participants. The programme remains open to evaluation through its first project. Its methodological coherence gives us a basis for beginning. Evidence from the work must show what the system actually achieves. [1–8]

Slide 2 Vietnam as the first proposed project

Speaker text · 1:00–3:00

Our first project is provisionally envisaged around Vietnamese archives concerning chemical agents used during the war and the investigation of their consequences. Two contributions elsewhere in this conference identify relevant holdings at National Archives Centers II and III. Their authors provide a documentary starting point for selecting a corpus and discussing access. They have their own authorship and evidential contribution. Our proposed project would build on that work. [9, 10]

We should begin with a limited collection and a question that the available records can help answer. A possible question is whether the documents allow us to reconstruct a candidate location and period for environmental investigation. This is an illustrative design. We have not selected a particular site or established its present condition.

The team would examine what a document actually records, how its place names and dates can be interpreted, and which later changes might matter. AI could assist transcription where feasible, translation, comparison and the organisation of alternative interpretations. Participants would check consequential passages against the originals.

An archival statement about military activity does not establish a present contamination level. We would formulate the missing connections and specify which independent records or environmental observations could examine them. If the documents cannot support a location, that limitation becomes a result of the pilot.

This modest starting point brings the eight papers together. It requires a working relationship with AI, explicit responsibility, controlled hypotheses, an evidence record and a reasoned route towards field verification. It also requires learning to work together across disciplines and languages.

Slide 3 Paper 1 The scientist–AI system

Speaker text · 3:00–4:15

The first paper, presented by the Laboratory of Military Ecotones, defines the scientist–AI system as our working arrangement. The expert brings the problem and the judgement required to evaluate results. AI assists comparison and repeated reformulation across material that a small team would otherwise struggle to organise. [1]

For the Vietnamese project, the system could place an archival passage, a historical map and a proposed environmental relationship in one analytical discussion. Their apparent connection would then become a question to examine. The discussion must preserve which statements come from sources and which connections the researcher or AI has proposed.

The practical contribution is an organised way to extend the team's cognitive work. The expert decides which interpretation deserves further investigation and which specialist checks it requires. We should measure the benefit through useful questions, corrected mistakes and better justified next steps. Time spent checking AI output belongs in that assessment.

This paper establishes the research configuration on which the remaining contributions depend.

Slide 4 Paper 2 Authorship control and the problem

Speaker text · 4:15–5:30

The second paper, from the Laboratory of Information Systems, examines authorship and the failure of what we call super-normal science. Its central concern is the displacement of the research problem by the preservation of established positions and procedures. This is the paper's critical argument about research organisation. [2]

For project work, we translate that argument into specific questions. Who checked the translation? Who accepted the reconstruction? Who decided that a candidate location justified further expenditure? Who approves the conclusion for publication?

An argument gains scientific standing through its grounds and the examination it survives. Identifying whether a person or AI first suggested a sentence does little to establish those grounds. Human responsibility for the accepted claim must remain identifiable, and consequential AI assistance must remain documented.

In the Vietnamese pilot, an elegant account of a location would still require source checking and comparison with alternatives. The paper therefore directs our attention towards control of conclusions and the contribution to the unresolved problem. These requirements apply to our own laboratories as well.

Slide 5 Paper 3 Responsibility to the problem

Speaker text · 5:30–6:45

The third paper states an explicit standard for the expert–AI system. Responsibility begins with a significant unresolved problem and continues through the decisions taken to investigate it. The absence of funding or professional discussion does not remove the work we can responsibly undertake with the means available. [3]

That position also requires recognising the limits of our competence. In a Vietnamese archival project, a participant may understand an administrative record but lack expertise in environmental transport. Another may understand soil processes but be unable to assess the historical terminology. The project must connect these competencies and identify the decisions requiring additional review.

The expert accepts responsibility for the interpretations adopted, published or applied. Where evidence remains incomplete, the record states the unresolved connection and the next useful task.

Under limited resources, this standard helps us choose. We proceed where the proposed action can improve understanding. We revise a task when its assumptions fail. We preserve an important question that we cannot currently answer. Responsibility concerns the object and the evidential consequences of our decisions.

Slide 6 Paper 4 AI assisted hypothesis generation

Speaker text · 6:45–8:00

The fourth paper, from the Laboratory of Military Ecotones, concerns a change in the organisation of hypothesis formation. Sustained discussion with AI can develop an initial question through successive objections and comparisons while retaining the research context. [4]

Suppose documents mention an activity near a river and later records report environmental effects elsewhere. One hypothesis links them through transport. Another points to separate sources. A third questions the location match. AI can help articulate these possibilities and identify assumptions that a first reading overlooked.

The resulting hypotheses do not receive equal credibility automatically. We compare their compatibility with the records and specify the observations that could distinguish them. A useful exchange ends with a clearer question or a testable relationship.

Morphological comparison helps examine distributions and changes through time while the environmental object develops. The project contribution is a set of justified verification questions with a preserved history of revision. A rapidly generated explanation becomes useful when we can inspect its grounds and determine how to challenge it.

Slide 7 Paper 5 Evidence status and uncertainty

Speaker text · 8:00–9:15

The fifth paper supplies the information standard needed throughout this programme. We preserve whether a claim is a documented statement, an observation, a reconstruction or a hypothesis. We also preserve the reason a question remains uncertain. [5]

For the archive pilot, the distinction is immediate. A record may report a chemical operation. Its wording may be ambiguous. A proposed coordinate may depend on interpreting an old place name. A second document may repeat the first rather than independently confirm it. These conditions need different responses.

Uncertainty can also arise because the environmental process has changed since the record was produced. Historical precision cannot by itself settle that later development. The team needs to identify what additional observations could clarify it.

Pathological uncertainty becomes a working problem when different gaps accumulate and their origins disappear. Our response is to make those origins explicit and connect them with research tasks. The evidence record allows participants to challenge an interpretation without losing the source, the earlier assessment or the reasons for revision.

Slide 8 Paper 6 Field verification

Speaker text · 9:15–10:30

The sixth paper connects the archival and conceptual work to field verification. It asks what we are looking for, why a location is relevant and which result would change our understanding. The Theory of Military Ecotones provides the explicit framework for the proposed environmental investigation. Its assumptions remain open to correction. [6]

In the Vietnamese project, archive analysis would help justify a candidate area. The field design would then distinguish plausible explanations through appropriate observations. Selecting a depth, an environmental compartment or an observation period involves assumptions that the team must state.

Quality data preserve the circumstances of their production. A result needs a location, date, method and the context required to interpret it. AI can assist planning and comparison, while qualified people perform and assess the physical work.

An environmental measurement alone also does not establish a specific health outcome. Each transition towards exposure and harm needs its own evidence. The paper gives the project a reasoned route from documentary uncertainty to observations that can support or reject proposed relationships.

Slide 9 Paper 7 An integrated working standard

Speaker text · 10:30–11:45

The seventh paper brings the preceding functions into an integrated working standard. A project preserves connections between its questions, sources, hypotheses, observations and decisions. Integration takes place during the work, whenever a new result changes the next action. [7]

For a small Vietnamese pilot, this means another participant can understand why the team selected a document, accepted a place-name interpretation or proposed a site. A contradiction remains available for examination. A rejected hypothesis retains the reason for rejection.

The Laboratory of Information Systems organises this information record. The Laboratory of Military Ecotones develops the environmental questions and verification priorities. Project roles must identify the people and partners able to perform each operation.

AI assists across the cycle, and we evaluate where its contribution helps or creates unnecessary checking. The standard preserves continuity when funding, participants or tools change. The practical result should be a research record that another investigator can examine and continue, including the questions the pilot could not resolve.

Slide 10 Paper 8 Scientific recognition and explanation

Speaker text · 11:45–13:00

The eighth paper, by Dmitry Nikolaenko, explains why the research system must allow the object itself to become clearer through investigation. Scientific Recognition means progressively identifying its relationships and working boundaries. Scientific Explanation addresses how the process operates. These activities interact throughout the work. [8]

The Vietnamese pilot may begin with a location and discover that a relevant pathway extends beyond it. It may instead show that observations originally grouped together concern different processes. Either result can improve recognition and change the research design.

The Scientific Recognition Architecture allows preliminary explanations to guide inquiry while keeping their authority within stated evidential limits. A coherent pattern still requires causal testing. A mature explanation retains the conditions under which it applies. [11]

This final paper gives the programme its methodological openness. The team must preserve what changed in its understanding, which explanation became better supported and what remains unresolved. Completing the pilot should leave the next investigator a clearer object and a more usable basis for continuing the inquiry.

Slide 11 The organisation of inquiry

Speaker text · 13:00–14:30

We can now see the first part of the series' common logic: the organisation of inquiry. Paper one defines the working arrangement with AI. Paper two asks what controls the conclusions and whether the problem remains central. Paper three makes responsibility explicit. Paper seven connects these obligations with the operation of a small project. [1–3, 7]

The resulting organisation follows the relationships we need to investigate. An archivist evaluates the document. A language specialist helps resolve a significant expression. An environmental researcher examines the proposed pathway. The coordinating expert identifies where these judgements meet and where another competence is required.

AI can assist the comparison between these perspectives. It cannot create the absent specialist competence simply by producing an answer in that discipline's vocabulary. We therefore record which checks participants performed and which remain outstanding.

The conference helps clarify these requirements before implementation. Its achievement includes more precise questions and an explicit programme that prospective participants can examine. The next assessment concerns actual project performance. Can the team preserve its reasons, correct errors and select a useful next action under its available resources?

This is why the eight papers belong together. Their organisational requirements make the proposed research operations accountable and allow the work to continue across specialties.

Slide 12 The developing research cycle

Speaker text · 14:30–16:00

The second part of the logic concerns the developing investigation. The archive supplies statements with particular histories. Paper five keeps their status visible. Paper four helps turn unresolved relationships into competing hypotheses. Paper six directs observations towards those differences. Paper eight asks what became clearer about the object and its explanation. [4–6, 8]

The cycle includes return and correction. A field result may lead us back to a document whose place name we misunderstood. An archival contradiction may remove the justification for sampling. A new pathway may require expertise or a location beyond the initial project scope.

We preserve the change and its grounds in the integrated record. This allows a project to make a bounded conclusion while retaining questions for later work. It also prevents a plausible reconstruction from silently becoming an established finding.

For the proposed Vietnamese pilot, the first reviewable result could be a verified documentary reconstruction, a rejected location match or a field question with a defensible rationale. We should select a limited corpus and one question, then evaluate the entire cycle on that basis. Expansion follows what the pilot establishes and the partnerships available.

The purpose of the common system is cumulative understanding. Each action should leave the object better described or the remaining uncertainty more specifically connected with a possible investigation.

Slide 13 Preparation for effective AI research

Speaker text · 16:00–17:30

Effective use of AI requires preparation. A participant needs to formulate the research question, supply relevant context and distinguish the operations being requested. Extracting what a passage says, translating its wording and proposing an environmental explanation are different tasks. Their results need different checks.

AI can act partly as a mirror of the user's framing. A vague question or an unexamined assumption may return in fluent, expanded form. We use this as a working metaphor for the interaction, rather than a complete description of the technology. A weak use of AI reveals a weakness in the arrangement between the user, the task and the tool. It cannot settle the capability of AI in general.

Preparation therefore includes asking what would challenge the preferred interpretation, comparing the answer with the source and documenting the consequential revision. A participant must also recognise when a question requires specialist judgement or a physical observation.

The user has substantial influence over the quality of this work. Model capabilities, source quality and verification also matter. Even a well-prepared expert can receive an erroneous answer. Our standard makes checking and correction part of normal project activity.

We will assess learning through work on project material: a checked claim, a justified alternative or a decision whose grounds another participant can inspect. The outcome is competence in a shared research procedure. [1, 3–7]

Slide 14 Online learning across disciplines and languages

Speaker text · 17:30–19:00

The preparatory work can take place online. Participants can examine shared documents, discuss AI outputs and compare interpretations without travelling to one meeting place. Sessions can combine scheduled discussion with exercises completed when participants have time. Field observations remain organised where the environmental work requires them.

The training must also address differences between specialties. Participants need to understand what another discipline's evidence establishes and where its limits begin. Working on the same archival fragment and proposed relationship will reveal those differences more clearly than a general demonstration of AI features.

We intend to support learning and contribution in participants' native or strongest working languages. AI-assisted translation can help connect those contributions with the common project record. Participants should have room to develop a precise argument before preparing its shared-language version.

This requires checking. UNESCO notes that many languages remain underrepresented in AI systems. We must assess the tools for the languages involved, maintain a common glossary and verify translations that affect a consequential interpretation. We cannot promise equal performance for every language. [12]

Excellent English will not be a general entry requirement. A TOEFL certificate will not be required for participation in this programme. Subject expertise, willingness to learn and the ability to follow the shared checking procedure will guide participation. The project organisation must provide the language support needed for effective collaboration.

Slide 18 Our commitment to preparing the team

Speaker text · 19:00–20:00

The Laboratory of Information Systems and the Laboratory of Military Ecotones will organise practical online training as part of preparation for the first project, provisionally focused on Vietnam. The two laboratories take responsibility for organising the learning process and arranging the subject and language checks it requires.

We will work with project documents and research questions, support participation in native or strongest working languages, and maintain shared procedures for source verification. Training will continue as project work reveals new needs. We will assess progress through the participants' research tasks and the inspectable decisions they produce.

Our first step is a limited archival pilot with an explicit question. The eight papers provide its working foundation. Preparation of the team makes that foundation usable in an international project.

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