Event-Ecosystem Dilemma

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We would like to open the conference with these three sentences.

We do not study the ecosystem.

We study an event.

We make decisions about the ecosystem.

They describe not only the state of research on wartime contamination. They describe the position in which we find ourselves almost every time we try to understand a complex ecological process.

An event exists in reality. It develops over time, spreads through space, changes form, and enters into relationships with other events.

Contamination moves from air into water, from water into bottom sediments, from soil into plants, and from plants and animals into food chains.

The destruction of infrastructure changes settlement, economic activity, access to water, and health conditions.

All this happens at the same time, although our disciplines, methods, and projects usually examine what is happening separately.

An ecosystem is a biological community of interacting organisms and their physical environment. We do not observe an event as an ecosystem. We observe an event as act of destruction, a separate substance, a separate sample, a disease, a territory, or a statistical relationship.

These events may be accurate. But the accuracy of an event does not yet mean understanding the ecosystem.

Problem. Which Events Become Visible

Destruction too large to ignore

Obvious harm to people

An accessible territory

What the laboratory can measure

An existing discipline

Available funding

Administrative boundaries

A politically permitted question

The events are already the result of selection.

Problem

We do not study the ecological process. We study an event. We make decisions about the ecosystem.

The process develops over time, spreads through space, and changes form. Contamination moves among environments, but disciplines and projects usually examine these movements separately.

A complex ecological process exists and changes over time, but we almost never study it as an ecosystem. We study separate events of destruction, substances, samples, diseases, territories, and statistical relationships.

We then make decisions about the ecosystem on the basis of these events. This is the Event-Ecosystem Dilemma.

Events are studied unevenly and not by chance. We notice what is too large, too destructive, or too close to people to remain unnoticed.

We study what can be accessed, what the available laboratory knows how to measure, what corresponds to an existing discipline, and what has received funding.

Therefore, the totality of facts studied is not a neutral image of reality. It is the result of selection. Part of this selection is determined by the event: a catastrophe really does make some consequences obvious.

But another part is determined by us: by our instruments, concepts, administrative boundaries, political interests, and the habits of the scientific community.

It is especially easy to see what already has an understandable form of harm to people. It is much harder to keep attention on changes in an ecosystem that have not yet produced an obvious disease, economic loss, or political crisis.

However, the absence of an immediate human consequence does not mean the absence of an ecosystem. Sometimes it means only that the chain has not yet reached people, or that we do not know how to trace it.

Theory. Event and Subject Matter

EVENT

What exists and changes in reality over time.

SUBJECT MATTER

The part of the event that the scientific community has selected, described, and agreed to study.

Research is impossible without a subject matter. The error begins when it is taken for the event.

Theory. Cognitive Split

The event continues to exist and change. The subject matter begins to exist in scientific description as if it were the event itself.

Method. Methodology as a Mechanism of Visibility

Methodology determines not only how we study the event. It determines which part of the event we are capable of observing.

Does the time of event correspond to the time of the ecological process? Can the method observe dispersion, transformation, and accumulation? Can it work with several connected environments? Can a new event change the original model?

Results. A Recurring Structure of the Problem

Dioxin contamination

Agent Orange and Agent Blue

New Zealand dolphins

Destruction of hydraulic systems

Movement of contamination

Changes in an event, economic activity, and settlement

A separate indicator is not the event itself.

Results. Two Sources of Uncertainty

UNCERTAINTY OF THE EVENT

The real complexity, variability, and openness of a natural system.

UNCERTAINTY OF THE SYSTEM OF KNOWLEDGE

New event, uncollected data, broken links between disciplines, and untested hypotheses.

New events capable of changing the conclusion should be identified. Respect for people does not require respect for scientific constructs. Theories, methods, projects, and institutional positions must be tested.

Results. The Standard of this Conference

Every talk is an event, not an ecosystem.

The speaker shows the boundaries of the studied part of the event. The speaker separates permitted conclusions from those the data do not permit. The speaker identifies connections with other events and names a new event capable of changing the conclusion.

Key Takeaways

An event is not the ecosystem.

Subject matter is not the event.

Method determines the boundaries of visibility.

Uncertainty has different sources.

Scientific constructs require testing, not respect.

Key points

- We do not see the event as an ecosystem; we study events and make decisions about the ecosystem.
- The event exists in reality; subject matter is created by research and must not replace the event.
- Methodology determines both the way of studying and the boundaries of scientific visibility.
- Uncertainty may belong to the event or be produced by the system of knowledge.
- Every talk should show the boundaries of the event and what could change its conclusion.

An ecosystem is a biological community of interacting organisms and their physical environment. We study separate events of destruction, substances, samples, diseases, territories, and statistical relationships. We then make decisions about the ecosystem on the basis of these events. This is the Event-Ecosystem Dilemma.

The question for each speaker for the next three days:

What allows us to move from an event to a decision about the ecosystem?