

117-71-D An Awe-Inspiring Example of Instability

The strange lesson of the well seiche

One of the most awe inspiring examples of instability in nature is something called a well seiche.

Please watch video : <https://x.com/sciencegirl/status/2085417500393500992?s=48>



The phenomenon is so unusual that people encountering it for the first time often assume that something supernatural is taking place.

The water in a well suddenly begins to rise and fall rhythmically. There is no storm. There is no visible inflow of water. There is no visible outflow of water. There is no apparent source of energy. Yet the water continues to oscillate.

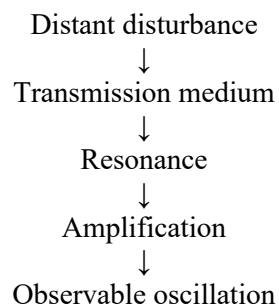
- The explanation is simultaneously simple and profound.
- The well is not producing the instability.
- The well is merely revealing it.

The hidden source

A disturbance may originate from:

- an earthquake hundreds or even thousands of kilometers away;
- atmospheric pressure changes;
- underground geological movement;
- shifts in the surrounding aquifer.

That disturbance travels through the surrounding environment until it encounters a structure whose natural frequency matches the frequency of the incoming perturbation. Then something extraordinary happens. The system begins to resonate.



The observer's mistake

Imagine standing next to the well.

- The oscillation is visible.
- The disturbance is local.
- The conclusion appears obvious.
- The problem must be in the well.
- Unfortunately, that conclusion is often wrong.
- The well may merely be the place where the hidden instability finally becomes visible.
- The source may be extremely distant.

Why this matters

This phenomenon contains several lessons that are extraordinarily relevant to interconnected cognitive systems.

Instability can travel.

The source and the manifestation may be separated by enormous distances.

Instability can remain hidden.

The field may accumulate energy long before anyone notices anything unusual.

Tiny perturbations can become enormous disturbances.

Resonance can transform a weak signal into a powerful event.

Timing matters.

The same disturbance may be harmless in one circumstance and catastrophic in another.

The structure of the network matters.

Topology determines the pathways through which energy propagates.

Observers often mistake symptoms for causes.

The most visible component is not necessarily the guilty component.

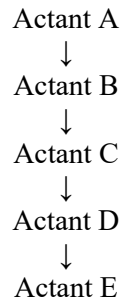
The cognitive well seiche

This is where the analogy becomes fascinating. Imagine thousands, millions, or billions of interconnected actants:

- humans;
- AI-agents;
- models;
- APIs;
- robots;
- institutions.

Now imagine a disturbance occurring somewhere within the field.

- The disturbance propagates.
- Energy accumulates.
- Couplings amplify.
- Resonance develops.
- Eventually, an apparently unrelated actant begins exhibiting strange behavior.



The observer sees Actant E fail.

The actual source may have been Actant A.

GUDIYA's interpretation

From the perspective of GUDIYA, this phenomenon is extraordinarily important because it suggests that cognitive fields may possess many of the same characteristics as physical fields.

They may exhibit:

- transmission;
- resonance;
- amplification;
- attenuation;
- storage;
- delayed release;
- oscillation;
- synchronization;
- cascading failure.

The most beautiful lesson

Perhaps the most profound lesson of all is this:

- The well itself is perfectly innocent.
- It is simply the messenger.
- Human beings have an unfortunate habit of attacking the messenger.
- Nature teaches us to do something else.
- Nature teaches us to search for the field.
- And that may ultimately become one of the central missions of stability engineering.

