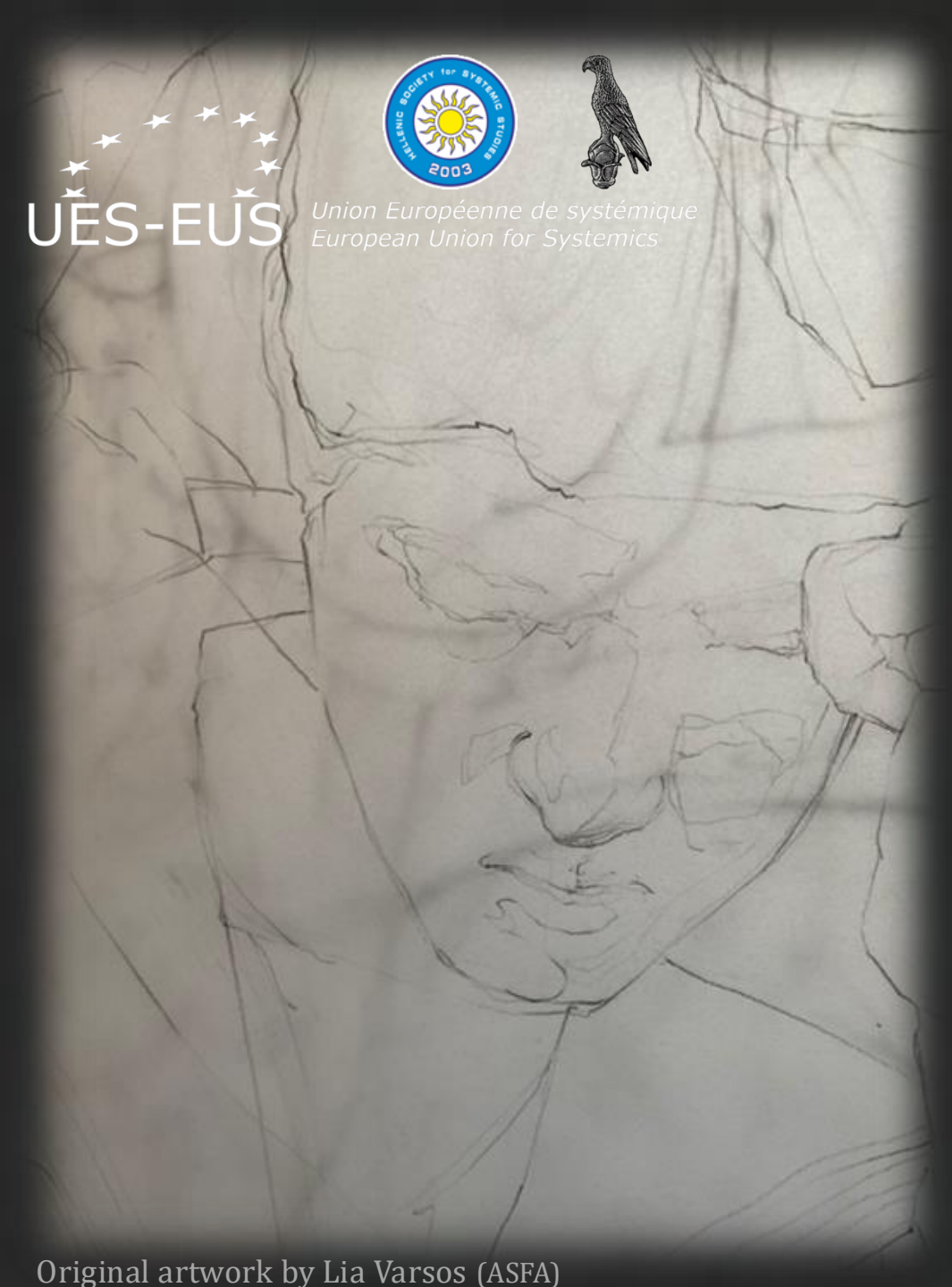


Original artwork by Lia Varsos (ASFA)

22ND HSSS NATIONAL & INTERNATIONAL CONFERENCE

IN COLLABORATION WITH THE

UNIVERSITY OF IOANNINA

DEPARTMENT OF ACCOUNTING AND FINANCE, PREVEZA.

APPLIED SYSTEMIC MANAGEMENT IN THE AI ERA

PROFESSIONAL ROUND TABLE

NAVIGATING COMPLEXITY, ADAPTATION & RESPONSIBLE TRANSFORMATION

CHAIR: DIMITRIOS S. VARSOS

Traditional Paradigm: the Machine

A COMPUTER

CAN NEVER BE HELD ACCOUNTABLE

THEREFORE A COMPUTER MUST NEVER

MAKE A MANAGEMENT DECISION

Commonly attributed to a 1979 IBM training manual

Inferences

- NO ACCOUNTABILITY: Machines can process data, execute calculations, or run algorithms, but they cannot absorb the legal, financial, or ethical consequences of failure.
- HUMAN RESPONSIBILITY: A manager can use a computer's output as a tool or recommendation, but the person who signs off on the choice owns the outcome.
- SUPPORT VS. REPLACEMENT: The principle draws a line between calculating/advising *(which computers do well)* and judging/deciding *(which requires human accountability).*

Recurring Perspectives

- THINK SYSTEMICALLY ABOUT AI: AI should be understood not as a stand-alone technology, but as part of a wider socio-technical system involving people, processes, structures, data, governance, and the external environment.

- PROMOTE RESPONSIBLE USE: Responsible AI requires clear accountability, transparency, human oversight, and an understanding of how technological decisions affect different stakeholders across the organization.

Recurring Perspectives

- MANAGE RISK THROUGH FEEDBACK AND ADAPTATION: Risk mitigation should not be treated as a one-time compliance exercise. Organizations need continuous monitoring, feedback loops, learning mechanisms, and the ability to adapt as AI systems and their contexts evolve.

- USE GOVERNANCE TO ENABLE INNOVATION: Effective governance should not simply restrict AI. When designed systemically, it can create the conditions for experimentation, learning, and innovation while maintaining appropriate control.

Recurring Perspectives

- TURN RESPONSIBLE AI INTO COMPETITIVE ADVANTAGE:
  Organizations that combine ethical awareness, systemic thinking, risk management, and innovation may be better positioned to build trust, improve decision-making, strengthen resilience, and create sustainable competitive advantage.

UES-EUS Union Européenne de systémique
European Union for Systemics



Question

Are we facing AI as people have often faced transformative encounters throughout history, seeing what is arriving, but not yet understanding the system of consequences that comes with it?

Positive Consequences

- AUGMENTED DECISION-MAKING: AI can help organizations process complexity faster, identify patterns that humans may miss, and support more informed decisions.
- HIGHER PRODUCTIVITY AND EFFICIENCY: Automation of repetitive, data-intensive, and routine tasks can free people to focus on judgment, creativity, relationships, and higher-value work.

Positive Consequences

- ACCELERATED INNOVATION: AI can shorten experimentation cycles, support rapid prototyping, improve knowledge discovery, and enable new products, services, and business models.
- GREATER ORGANIZATIONAL ADAPTABILITY: When combined with good governance and systems thinking, AI can improve sensing, feedback, learning, and response, helping organizations adapt more effectively to changing environments.

Negative Consequences

- LOSS OF CONTROL AND ACCOUNTABILITY: As AI systems become more autonomous and complex, it can become harder to determine who is responsible for decisions, errors, or harmful outcomes.
- BIAS, UNFAIRNESS, AND ETHICAL RISK: AI can reproduce or amplify existing biases in data and decision processes, leading to unfair treatment and loss of trust.
- WORKFORCE DISRUPTION AND DEPENDENCY: Automation may displace or significantly reshape roles, while excessive dependence on AI can weaken human expertise, judgment, and organizational resilience.

Systemic & Unintended Consequences

- Because AI is embedded in wider organizational and social systems, optimizing one area can create new risks elsewhere, including security vulnerabilities, misinformation, poor incentives, or cascading failures.

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Is the real AI risk a technology problem or a systems-design problem?

Often repeated: *"WE ARE THE SYSTEM"*

"WE ARE THE SYSTEM"

- This, in my opinion, is an "*antisystemic*" statement because, paradoxically, it uses the word system while removing the defining characteristics of a system: its structure and the relationships among its elements
- The system produces its own behavior
- The system fights back when its structure generates counteractions that neutralize or reverse the intended change

Some Interesting Statistics

- 75% of global knowledge workers use AI at work. [1]
- 78% of AI users bring their own AI tools to work ("BYOAI"). [1]
- 60% of leaders worry their organization lacks a clear vision and plan to implement AI. [1]
- Only 38% of organizations track changes in employee productivity from GenAI, despite 54% seeking productivity/efficiency gains. [2]

[1] Microsoft & LinkedIn 2024 Work Trend Index, based on a survey of 31,000 people in 31 countries.

[2] Deloitte's State of Generative AI in the Enterprise, Q3 2024

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Taken together, these findings suggest that AI adoption may be moving faster than organizational governance, measurement, and control

What to do

- **See the whole system, not just the technology:** Systems thinking helps organizations understand how AI affects people, processes, structures, incentives, customers, and external stakeholders, making both opportunities and unintended consequences more visible.

- **Use feedback to learn and adapt:** Continuous monitoring and feedback loops allow organizations to detect emerging risks, measure benefits, and adjust AI-enabled processes before problems become embedded or amplified.

What to do

- **Balance innovation with control:** By considering reinforcing and balancing mechanisms, organizations can encourage experimentation and productivity while introducing appropriate safeguards, human oversight, and governance.

- **Strengthen resilience and long-term viability:** Systems thinking helps organizations avoid over-dependence on AI, preserve critical human capabilities, and design structures that can adapt to uncertainty, disruption, and changing technological conditions.

How to do it

- **Zoom Out Before You Act:** See the Whole System
- **Map the Connections:** People, Processes, Data, Technology and Decisions
- **Look for Feedback Loops:** What Could Reinforce or Balance the Change?
- **Expect Unintended Consequences:** Test Beyond the Immediate Results
- **Design for Adaptation:** Learn, Adjust and Keep the System Viable

Systemic Takeaways

- **AI is Not Just a Tool. It Changes the System**
  (People, processes, authority, information flows, customers, suppliers, and governance at the same time)
- **The Variety Gap** [1]
  (As AI-generated complexity increases, governance capacity must also increase)
- **Local Optimization, Systemic Failure**
  (Optimizing one subsystem in isolation can degrade the performance of the whole)
- **Where Should the System Boundary Be?**
  (Does AI governance include only the model or also users, data, vendors, regulators, customers, and downstream consequences?)

[1] Ashby's Law of Requisite Variety

Systemic Takeaways

- **From Compliance to Adaptive Governance**

  (Not static controls, but continuous sensing, monitoring, learning, and adaptation)

- **Human-in-the-Loop Is Not Enough**

  (Is simply keeping a human reviewer sufficient if the wider incentives, workflows, time pressures, or information structures are poorly designed)

- **What Should Never Be Fully Automated?**

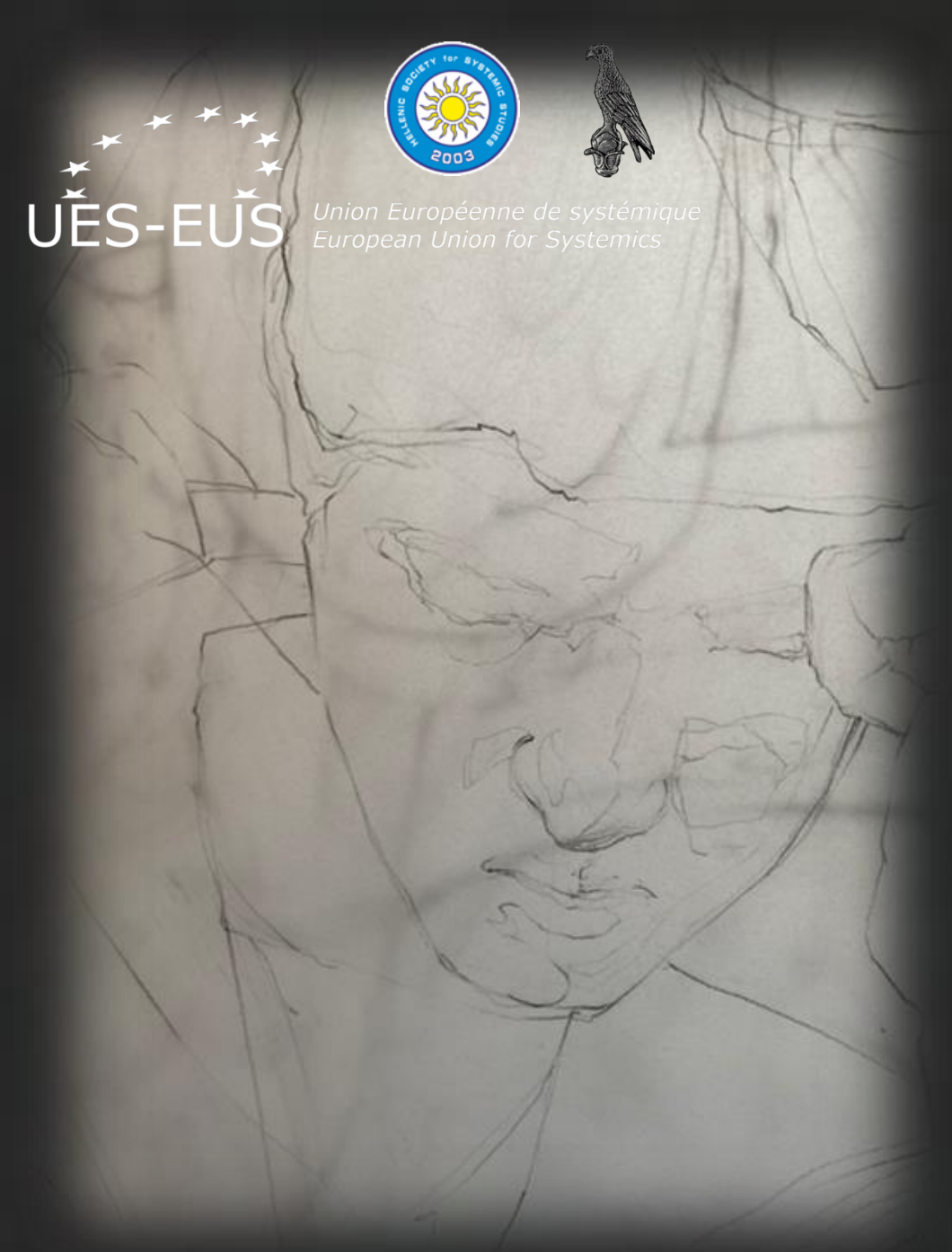
  (Authority, accountability, ethics, safety, and judgment)

Systemic Takeaways

Five Systemic Questions Before Deploying AI:

- What system are we changing?
- Who / what is affected? – What are the effects?
- What feedback will we monitor?
- What unintended consequences are possible?
- How will the system learn and adapt?

The real challenge is not whether AI will change our systems, but whether we will learn to see, understand, and govern the systems that AI is changing.



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Thank you