



Aalto University  
School of Science

# Systems Intelligence

Morpheus Project, OIH Otaniemi, 20.10.2016

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# We Live in Systems

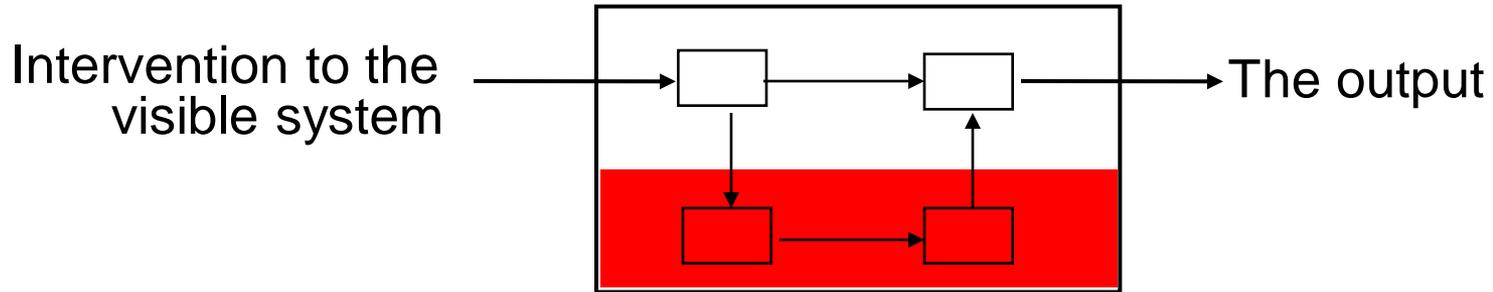
- **We always live and act as parts of (interacting and overlapping) wholes, i.e. systems** (family, school, work, community, etc.)
  - We cannot avoid the influence of the system on us and our influence on the system
  - Naïve thinking, everyday perception and dominant conceptualizations rely on the ontology of separate, independent entities.
  - The illusion of intelligence in most systems contexts is based on an objectified view of systems
  - Domain specific, contextual and subjectivity-related aspects of systems intelligence essential to take seriously as relevant to **success within wholes**
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# Systems intelligence

- **Intelligent behaviour in the context of complex systems involving interaction, dynamics and feedback**

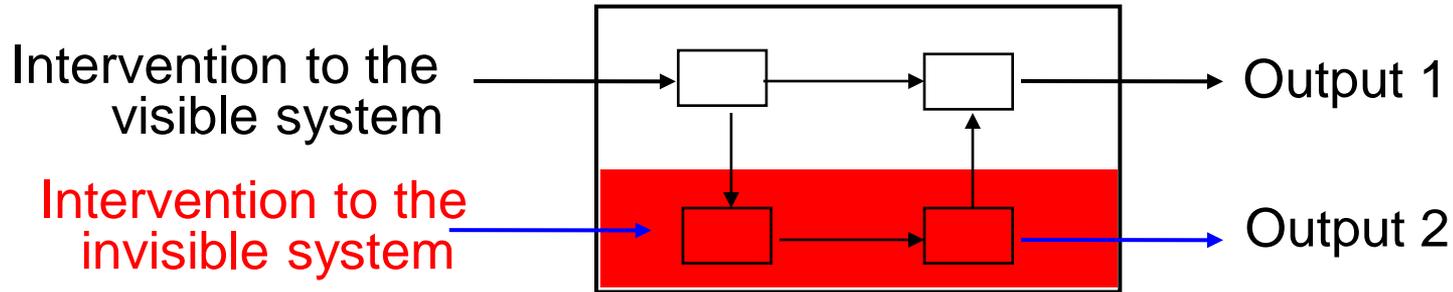
- **Acting intelligently as part of the system even when parts of the system remain hidden and unknowable**

# The Invisible System



R.H.Hämäläinen ja E.Saarinen/  
Systems Intelligence Research Group

# The Invisible System



- The invisible system often reflects subtleties of interaction on the emotional /non-conscious/non-articulate/attunement level
- With holistic, multidimensional approach to the system, the output possibilities are radically increased

A system can be “intelligent” as an objective, separate entity, yet

- human subjects (individuals, groups, teams, organizational units, institutions...) within it might stumble spectacularly
- the system itself might stumble spectacularly in the bigger system it is part of

**The brain is home  
to intelligence**

**The interactive brain  
is home to  
systems intelligence**

# Systems Intelligence Inventory

J. Törmänen, R.P. Härmäläinen & E. Saarinen, The Learning Organization, vol. 23, 2016

<b>Systemic Perception</b>	I form a rich overall picture of situations I keep both the details and the big picture in mind	I easily grasp what is going on I get a sense of what is essential to a given situation
<b>Effective Responsiveness</b>	I'm able to put the first things first When things don't work, I take action to fix them	I prepare myself for situations to make things work (neg) I easily give up when facing difficult problems
<b>Attunement</b>	I approach people with warmth and acceptance I am fair and generous with people from all walks of life	I take into account what others think of the situation I let people have a voice
<b>Spirited Discovery</b>	I like to play with new ideas I look for new approaches	I like to try out new things I act creatively
<b>Positive Engagement</b>	I'm good at alleviating tension in difficult situations I bring out the best in others	I contribute to the shared atmosphere in group situations I praise people for their achievements
<b>Wise Action</b>	I am willing to take advice I keep my cool even when situations are not under control	I take into account that achieving good results can take time I am wise in my judgment
<b>Attitude</b>	(neg) I explain away my mistakes I have a positive outlook on the future	(neg) I easily complain about things (neg) I let problems in my surroundings get me down
<b>Reflection</b>	I pay attention to what drives my behavior I make strong efforts to grow as a person	I view things from many different perspectives I think about the consequences of my actions

# Systemic Perception

Who are the key players and stake holders? What are their power relations? Do I perceive myself as part of the system? How are we acting and being influenced as part of the system? What kind of patterns of influence are dominant? What rules guide actions?

**You can feel in charge, supported by models that increase your sense of control. Looking from outside, you can identify the relevant parameters and how they connect with one another. The whole feels manageable.**

**?**

**Your construction might be a conceptual and organizational fabrication that does not correspond to reality and does not do what it is supposed to do. The human dimension of emotions, spirit and inter-subjectivity might remain invisible.**

# Effective Responsiveness

Do we react promptly when something happens? Are we ready for emergencies?

You can feel in charge, as you take action. With your actions you legitimize yourself in the eyes of others, and with your to-do-lists can keep track of your progress

?

You might be busy doing the wrong thing, or working on illusory self-generated problems, prompted by your own construction of the system, disconnected from real phenomena

# Attunement

Do we open up towards others? Do we approach other agents and stakeholders with warmth, encouragement and compassion? Do we facilitate a culture of trust?

It feels great to be loving, kind and warm towards others, and it is deeply fulfilling when your deeper self that is social and supportive of others guides your actions in your everyday

?

Your actions don't add up to KPI's. Your generosity and warmth points beyond exchange and calculations, and maybe cannot be measured

# Spirited Discovery

Are we creative, imaginative, bold in our thinking and actions? Do we try out things?

It feels great to be creative and to try out new things. When a new system is in place, there's a new playground that can feel exciting as a space for creativity

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Outside-the-box creativity is likely to be valued, but only inside-the-box (within the confines of the task lists). Your “creativity” might take place within a self-generated system and remain without value in the broader setting. Demands of execution might not leave room for genuine creativity.

# Positive Engagement

Do we take responsibility of the teams within which we operate, of the quality of relationships within the everyday and of the atmosphere of our collaboration?

**You altruism and team playing benefit everybody, and it feels great to contribute to the cause of others.**

**?**

**You might be wasting your time with your socially-driven efforts, losing valuable time from execution. You might become a victim of a power play as people might turn out to be egoistical sub-optimizers.**

# Wise Action

What time frame guides our actions and decisions, or are we merely reactionary? Do we allow growth to take the time it takes? Do we narrow our focus to the incremental, measurable, linear progress? Does the long view have a say as part of our current actions?

**You can look back to your current actions and feel proud of yourself.**

**?**

**Only a few might understand what you are up to.**

# Attitude

Are we inspired and spirited in our actions? Does positivity prevail over negativity in what we are doing? Do we radiate hope and the “better angels” of the human nature?

**Positivity feels great. It feels great to trust life and oneself and to be connected to a deeper cause and to one’s innermost aspirations.**

**?**

**The organization is primarily interested in your performance, task delivery and measurable contribution, leaving your feelings, aspirations and inner call your personal business.**

# Reflection

Do we engage in mind wandering, in out-of-the-box thinking, positive constructive daydreaming and in non-task-oriented reflection? Do we scrutinize the deeper meaning of what we are up to? Is dialogue on fundamentals a valued practice? Is open inquiry appreciated in meetings and as part of the everyday discourse?

**Examined life has been praised as fundamental since the times of Socrates**

**?**

**From the point of view of management and KPI's, mind wandering can be seen as a distraction that takes the focus away from the task list**

# SI Lessons from Mandela in 2 Minutes

1. Systemic Perception
2. Effective Responsiveness
3. Attunement
4. Spirited Discovery
5. Positive Engagement
6. Wise Action
7. Attitude
8. Reflection



# Systems Intelligence Inventory

of a Paradigmatic Project

## **Systemic Perception**

Organization believes the perception is accurate of the system as an objective entity

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## **Effective Responsiveness**

A lot of action going on, as excels indicate

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## **Attunement**

There is some understandable resistance to change, negative feedback from the customers. The overall spirit is too contradictory and fragmented for any real conclusions

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## **Spirited Discovery**

A lot of creative actions around the KPI's and top-to-bottom initiatives

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## **Positive Engagement**

We have some teams with excellent spirit and some with challenges, but the main point is to have the right structure in place

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## **Wise Action**

We are right on track, as strategy describes it

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## **Attitude**

Much better than earlier, with the exception of individual eccentrics and outliers

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## **Reflection**

A lot of right-on-target reflection going on the task lists as defined by strategy