Foundation Stones

- Living As A Whole Being
- How Connected Are We?
- Whole-System Economics
- Tools For The Journey
- Whole-System Governance
- Street-Smarts For Change Agents
- What Time Is It?

Street-Smarts For Change Agents
Two Literacies

hOS literacy

- innate
  - human nature
- culture
- wider world:
  - human / nonhuman
Human Operating System

Cognitive Modes

- linguistic-linear
- affect
- memory

Facets of Awareness

- pattern
- visual-spacial

kinesthetic-somatic

awareness
Two Literacies

hOS literacy

innate human nature

culture

systems literacy

wider world: human / nonhuman
The Systems Perspective

- sees *parts* and *wholes* equally
- sees *things* and the *relationships* among things equally
- sees a world filled with *connections* and *patterns* called “systems”

You are “systems literate” when you can see the world from a systems perspective.
The Challenge

Mysterious “Systems”

- hOS
- Cultural History
- Turf
What Is A System?

- A mental construct

- A way of organizing our experience into conceptually useful patterns

- Partial, selective, and provisional

Awareness → Mind Pattern → Your experience of reality

? ? ?

Reality

? ? ? ?
What Is A System?

Common language definition:

system = a set of interacting or interdependent components forming an integrated whole.
What Is A System?

Examples that fit the definition:
What Is A System?

Examples that fit the definition:

You

Witness

Sub-personality A

Sub-personality C

Integrator

Sub-personality B

Sub-personality D

Sub-personality E

Sub-personality E
What Is A System?

Examples that fit the definition:

Sentence
What Is A System?

Examples that fit the definition:
Territories are real, with one intrinsic set of characteristics and an unknowable depth of detail.
Maps And Territories

Maps are derivative, created by people using selective information about a territory to serve some purpose.
Maps And Territories

Any single territory can have many valid maps serving diverse uses.
Maps And Territories

Questions for territories:
What are your characteristics?
What do you contain?
Maps And Territories

Questions for maps:
What is your purpose?
What simplifications were knowingly made in your creation?
How accurately do you represent your territory?
How effectively do you serve your purpose?
Two Uses For “System”

- “System-as-label” – used as part of a label for a territory
- “System-as-model” – used to “map” that territory
What Isn't A System?

An object

Bounded cohesive unit
<table>
<thead>
<tr>
<th></th>
<th>Objects</th>
<th>Systems</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Used as labels</strong></td>
<td>yes</td>
<td>yes</td>
</tr>
<tr>
<td><strong>Focus of interest</strong></td>
<td>boundary</td>
<td>inside the boundary</td>
</tr>
<tr>
<td><strong>Physical</strong></td>
<td>yes</td>
<td>not necessarily</td>
</tr>
<tr>
<td><strong>Cohesive in space</strong></td>
<td>yes</td>
<td>not necessarily</td>
</tr>
<tr>
<td><strong>Range of choice in definition</strong></td>
<td>small</td>
<td>large</td>
</tr>
</tbody>
</table>
Object Permanence
Definition: A System ...

- is a **model** made up of interdependent **parts**
- has a **boundary** defined by its parts and a **context** outside that boundary
Boundaries

"My World"
A Personal System...Span of Control and Sphere of Influence in Work, Home, and Society
Definition: A System ...

- is a **model** made up of interdependent **parts**
- has a **boundary** defined by its parts and a **context** outside that boundary
- can have **connections** that reach across its boundary
Definition: A System ...

- is a **model** made up of interdependent **parts**
- has a **boundary** defined by its parts and a **context** outside that boundary
- can have **connections** that reach across its boundary
- can be part of a larger system and can have **sub-systems** within it **[nesting]**
Next Evolution: A System ...

• is an **interface** between us and the world that uses our **whole brain** to bring **useful order** to the overwhelming complexity of reality without oversimplifying

• has three primary aspects:
  * **diagram(s)** that show the overall structure of parts and connections [visual]
  * **descriptions** of the various parts and connections [linguistic]
  * **dynamics** that model how the parts and their interactions change over time [kinesthetic]
System As Interface

me and my concepts

you and your concepts

someone and her concepts

another and his concepts

System: diagram descriptions dynamics

Examples

• Diagram and descriptions
• Relationship ping-pong
• Ocean fishing
• Habits
• Food-limited population
• Home heating
Diagram And Descriptions

the congressman and the lobbyist
Relationship Ping-Pong

Past  | Internal | Between | Internal | Past
---|---|---|---|---
Other-Judgmental | Other-Judgmental | Detached | Detached | Self-Judgmental
Detached | Self-Judgmental | Self-Sacrificing | Self-Sacrificing

A  |  B
Relationship Ping-Pong

Past  Internal  Between  Internal  Past

Other-Judgmental  Other-Judgmental

Detached  Detached

Self-Judgmental  Self-Judgmental

Self-Sacrificing  Self-Sacrificing

A  B
Relationship Ping-Pong

Past  | Internal  | Between  | Internal  | Past
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A  B
Relationship Ping-Pong

Past | Internal | Between | Internal | Past
--- | --- | --- | --- | ---

A

- Other-Judgmental
- Detached
- Self-Judgmental
- Self-Sacrificing

B

- Other-Judgmental
- Detached
- Self-Judgmental
- Self-Sacrificing
Ocean Fishing

- Skilled Labor Pool
- Fish Stock
- Fleet

and

Total Catch
Ocean Fishing

- Skilled Labor Pool
- Fish Stock
- Fleet

and

Total Catch
Ocean Fishing

- Skilled Labor Pool
- Fish Stock
- Fleet

and

Total Catch
Constraints

A

B

C

and

Result

A

B

C

Result
Constraints
Intermission
Examples

• Diagram and descriptions
• Relationship ping-pong
• Ocean fishing
• Habits
• Food-limited population
• Home heating
Habits

- Fast associational thinking
- Subconscious
- Slow reflective thinking
  - Monitor & modify
  - Process & result
  - More process

Result

Process
Habits

Context → Cue → Routine → Results → Reward → Other Consequences

and
Habits

Context → Cue → Routine → Results
and
Reward → Other Consequences
Habits

- Context
- Cue
- Routine
- Motivations
- Reward
- Results
- Other Consequences
- And
System Dynamics

Thinking in Systems
A Primer
Donella H. Meadows
Edited by Diana Wright,
Sustainability Institute

LIMITS TO GROWTH
The 30-Year Update
Donella Meadows | Jorgen Randers | Dennis Meadows
System Dynamics

Stocks store stuff

Flows carry stuff in and out of stocks

Variables can be constants or equations

Links transfer information among the other three
Food-Limited Population

Model 1
Ecosystem example (from FS1)

- **Ecosystem Biomass**
  - **Time**
  - **Ecosystem Carrying Capacity**

- **S-curve**
  - **Reproduction-limited Domain**
  - **Resource-limited Domain**
  - **Midpoint**
  - **Succession Species**
  - **Pioneer Species**
Home Heating
Home Heating

time lags

too hot

just right

too cold

tipping points

Outside Temp and Thermostat

Time (Hours)
Do you think marriages between same-sex couples should or should not be recognized by the law as valid, with the same rights as traditional marriages?

State law changes

1 1 2 1 2 5 18
Break
Applying The Systems Perspective

System: diagram, descriptions, dynamics

- me and my concepts
- you and your concepts
- someone and her concepts
- another and his concepts

- reality?
When And Why

• More than 4 chunks
• Designing a new project
• Perplexing issue
• Need a shared understanding
• Resolving conflicts
• For the delight of discovery
Surface Your Thoughts

- What are the key parts in your system?
- What are the key relationships in your system?
- Use flexible tools: post-its, software, lists
The Value Of This First Step

- Externalizes many more chunks than we can hold in working memory
- Shares those chunks; allows group brain dump
- Doesn’t require a story
# Stories vs. Maps

<table>
<thead>
<tr>
<th>Character</th>
<th>Stories</th>
<th>Maps</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>a linear trail through the landscape of thought</td>
<td>a multi-dimensional container for unlimited stories</td>
</tr>
<tr>
<td>Best for</td>
<td>describing the past or a single scenario</td>
<td>creative design or exploring possibilities</td>
</tr>
<tr>
<td>Downside</td>
<td>puts you in a groove</td>
<td>you must choose the path to take</td>
</tr>
</tbody>
</table>
The Value Of This First Step

• Externalizes many more chunks than we can hold in working memory
• Shares those chunks; allows group brain dump
• Doesn’t require a story
• Essential neutral starting point for making links
Build The Diagram

• Start simple; start comfortable

• Timeline or structure diagram?
Timeline

Gantt Chart
Build The Diagram

- Start simple; start comfortable
- Timeline or structure diagram?
- It’s an art, just like making a good outline
- Expect to grow and refine your diagram over time
The Value Of This Second Step

- Externalizes many more chunks and relationships than we can hold internally
- Shares those elements; allows group modeling
- Models many aspects of the real world better than linear stories
- Supports multiple valid stories
Add Descriptions

- Give depth to the diagram
- Keep diverse views
- Only do what serves
Add Dynamics

- Can be qualitative or math
- Build in appropriate “sliders”
- Only do what serves
What can you do to move more gracefully into the Planetary Era?
Inhabit Your Optimal Zone

High

Performance

Low

Neurological Arousal

High

Trauma Load

Low

Heal, Have Fun
And
Get Tasks Done

Low

High
Use A Systems Perspective

- Me and my concepts
- You and your concepts
- Someone and her concepts
- Another and his concepts

System: diagram, descriptions, dynamics

? ? ? ?

Reality
?
? ? ?
Find Your Way To Make A Difference

- Sustainability
- Diversity
- Connectivity
- Self-organization
- Educate
- Implement
- Innovate
Thank You!

www.context.org