Coping with complexity: Systems thinking, complex responsive processes, and systems intelligence

Jukka Luoma, Raimo P. Hämäläinen, and Esa Saarinen
Systems Analysis Laboratory
Helsinki University of Technology
P.O. Box 1100, 02015 TKK, Finland
http://www.sal.tkk.fi
firstname.lastname@tkk.fi
A persistent interest in systemic perspectives

...on coping with complexity within and across organizations (SD, SSM, CST etc.)

Recently: Complex Responsive Processes (CRP) of Stacey et al. (2000, 2006) and Systems Intelligence (SI) of Hämäläinen and Saarinen (2004, 2007)

Stacey et al. advocate CRP as an alternative to "Systems Thinking" (ST)

SI provides a new approach to thinking and acting within systems
Thesis: Towards an integration of ST and CRP with Systems Intelligence

- Systems Thinking
- Complex Responsive Processes
- Systems Intelligence
Complex Responsive Processes - an alternative to Systems Thinking?

- Primary focus is upon the *actual interactive processes* between people which give rise to
  - What ST calls systems, and
  - To the understanding of those systems

- Focus *more* upon the "living present"

- From organization as a system to...

  ...organization as *interrelated interactive processes between people*
Wholes and their transformation in CRP

- Organizations as wholes are "imaginative constructs", conceptions of "population-wide tendencies" to respond to particular actions in specific ways.

- Transformation of local interaction is potentially amplified into a population-wide transformation in subsequent interaction.
Systems Intelligence

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

- A subject acting with Systems Intelligence engages successfully and productively with the holistic feedback mechanisms of her environment

- She perceives herself as part of a whole, the influence of the whole upon herself as well as her own influence upon the whole

- By observing her own interdependence in the feedback intensive environment, she is able to act intelligently
## Comparisons between ST, CRP, and SI

<table>
<thead>
<tr>
<th></th>
<th>ST according to Stacey et al.</th>
<th>CRP of Stacey et al.</th>
<th>Systems view of SI</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Organization</strong></td>
<td>A reified and thing-like whole</td>
<td>An imaginative construct</td>
<td>A system with human and nonhuman elements - a construct $\rightarrow$ re-frameable</td>
</tr>
<tr>
<td>as a whole</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Novelty and</strong></td>
<td>Re-designing and re-organizing</td>
<td>Amplification of differences in local interactions</td>
<td>Interventions from within systems and re-framings of those systems $\rightarrow$ capacity to change is an intrinsic characteristic of systems</td>
</tr>
<tr>
<td><strong>change in</strong></td>
<td>systems as objects</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>organizations</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Choices with</strong></td>
<td>Ignores choices as an ongoing</td>
<td>Choices are forming, and being formed by, values and norms, ”ideology”</td>
<td>Choices people make are enabled and constrained by as well as constituents of systems $\rightarrow$ an emphasis on the possibility of choice</td>
</tr>
<tr>
<td><strong>respect to</strong></td>
<td>on-going characteristic of all</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>wholes</strong></td>
<td>human action</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Towards integrating the insights of ST and CRP

- Stacey et al. criticize what we call "objectifying systems thinking" with regard to which, they do have an important point.

- We do not see "systems" to be in conflict with the CRP perspective.

- The concept of a "system" does capture important perceptual and habitual aspects of the interactive processes between people.
The way forward with Systems Intelligence

- Builds upon the systemic insights of ST, i.e. understanding human action as something that people together generate as systems.

- Emphasis on one’s continual influence upon wholes (as in CRP), from within wholes, also in the context of one’s local interactions in the unfolding present moment.

- Extends descriptive and prescriptive systems approaches with its suggestive and empowering aspects.
Summary

- The systems vocabulary and approach to human interaction need not and should not be discarded.

- The emphasis of CRP on everyday action and conceptual development of the "living present" extends systems thinking.

- Systems Intelligence builds upon Systems Thinking with a similar emphasis to that of Complex Responsive Processes.
References


