Union of Intelligible Associations

Part B: Integrative modes and metaphors:
“ways of knowing”

Anthony Judge
Union of International Associations
for
World Academy of Art and Science
Conference theme: The Future of Knowledge:
Evolutionary challenges for the 21st Century
(Zagreb, November 2005)

Panel theme: Organizing knowledge for human benefit
6. Integrative modes and metaphors: “ways of knowing”

1. Popular symbol systems (astrology, tarot, leys, etc)
2. Lists (selected, prioritized, nested, search hit lists)
3. 2-D Matrix (4-cell, n-cell)
4. Triangular mapping
5. Complementarity diagrams (“correspondences”)
6. Network mapping (self-organizing network maps)
7. Models, simulations, interactive games
8. Circular relationship maps (loop representation)
9. Multi-media, sonification
10. Mapping complexity plane (Mandelbrot set fractal)
11. Spherically configured 3-D structures (polyhedra, etc)
12. Transformable structures, morphable images
Mode 1: Traditional symbol systems
Insights into policy cycles in Imperial China
Hindu yantra
Mode 2: Lists - unstructured and otherwise

- *Book of Lists*
- Prioritized lists (political “key issues”)
- Nested lists (asystemic)
  - UN/OECD Macrothesaurus
  - Agenda 21
- Hit lists (web search engine results)
- Bulleted lists (as this slide !!!)
Tree structure presentation for keywords: FORESTS

- Deforestation [more]
  - Forest decline |
  - Forest fragmentation |
  - Tropical deforestation **
  - Fish-bone deforestation |
  - Deforestation in time of war |
  - Deforestation of mountainous regions |
  - Destruction of wildlife habitat by fire |

- Endangered forests [more]
  - Threatened forest habitats [more]
  - Threatened plantation trees |

- Forest decline |
- Unsustainable development of forest lands [more]
  - Inappropriate tree plantations |
  - Inadequate watershed management [more]
  - Environmental hazards from logging [more]
  - Disruptive migration to forest lands |
  - Unsustainable cultivation of long-lived trees |
  - Misuse of tropical rain forests for agricultural development **

- Tropical deforestation **
- Unethical practices in forestry [more]
  - Logging of old stand forests |
Database selected: World Problems - Issues

Registered user ANTHONY_JUDGE | Free search | Full profile

Index extract on: 21 Aug 00 | [Browse alphabetic index?] | [Browse subjects?] | [Equivalent for Strategies | Organizations ]

23 Item(s) found for keyword(s): FORESTS
Sort order requested: None

Selection below: Unrestricted. User is: Anthony Judge

Page: 1 (no more pages) [New Search] [With alternative titles] [With analysis] [Tree structure] [Map]

Deforestation [**]
Endangered forests [*]
Forest decline
Unsustainable development of forest lands
Tropical deforestation [*]
Unethical practices in forestry
Threatened alluvial forests habitats
Threatened montane tropical forest habitats
Threatened cool temperate wet forest habitats
Illegal forest clearance
Logging of old stand forests
Threatened tropical dry forest habitats
Threatened forested peatland habitats
Threatened warm temperate moist forest habitats
Undervaluation of forests
Threatened serpentine forest habitats
Threatened habitats of tall, dense needle-leaf conifer forests
Threatened subtropical and temperate rain forests or woodlands biome
Threatened temperate needle-leaf forests or woodlands biome
Threatened evergreen sclerophyllous forests, scrubs or woodlands biome
Threatened temperate broad-leaf forests or woodlands biome
### Database selected: World Problems - Issues

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Index extract on: 21 Aug 00 | [Browse alphabetic index?] | [Browse subjects?] | [Equivalent for Strategies | Organizations ]

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Sort order requested: **None**

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Mode 3: 2-D Matrices

- 4-cell (Wilber quadrants)
- Input-Ouput diagrams (resources, accounting)
- N-cell (Int. Concept Classification)
- N-cell (UIA Functional classification)
UIA Functional classification matrix

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- **Consciousness**: 90
- **Leadership (Authenticity)**: 91
- **Love (Compassion)**: 92
- **Comprehension**: 93
- **Creative expression**: 94
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- **Perseverance**: 98
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- **Zoology**: 13
- **Invertebrates**: 14
- **Fish, reptiles**: 15
- **Birds, mammals**: 16
- **Mankind**: 17
- **Medicine**: 18
- **Geography (Ecology)**: 19

- **Fundamental sciences**: 00
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- **Earth**: 02
- **Meteorology**: 03
- **Climatology**: 04
- **Oceanography**: 05
- **Hydrology**: 06
- **Geophysics**: 07
- **Geology**: 08
- **Resources (Energy)**: 09
Mode 4: Triangular mapping
ICA Social process triangles framework
Triangular relationships
Mode 5: Complementarity diagrams ("correspondences")

UIA Interlinked knowledgebases
12 Languages of governance
Mode 6: Network mapping

- Static maps
- Self-organizing network (“spring”) maps
- Touchgraph
- Decision Explorer
Knowledge organization relating to terror
Indicate type: Aggravates problems for Deforestation
This version only includes problems in loops (Loop total = 378). See also non-loop map loop pattern below for mouse buttons and how to redefine map.

Difficulties with map display? In many cases these are due to the number of items requested - try a smaller selection. Sometimes the mouse functions do not work - try restarting your browser (or reboot to reinitialize the applet). Other errors may be due to defects in the data - we are working on them! If you do not like the colours, scale, background, line length or complexity - then try changing them!
Conference mind-mapping

- Urban slums
- Deforestation
- Unsustainable population levels
- Ozone as a pollutant
- Acidic precipitation
Conference mind-mapping

- Discrimination against women
- Social subjugation of women
- Wife abuse
- Infantalization of women
- Violence against women
- Discrimination against women in employment
- Restriction of freedom of expression
Scalable vector graphics

Discrimination against women
Problem loops sustaining irresponsible policies
Network spring map

- Social underdevelopment
- Uncontrolled industrialization
- Lack of response to monetary incentives
- Government manipulation of public information
- Religious intolerance
- Misguided legal advice
- Insufficient rural housing
- Power politics
- Prohibitive cost of transportation
- Class conflict
- Denial of right to work
- Unrealistic environmentalism
- Westernization of traditional modes of life
- Tradition-bound subordination of women
- Unprotected vulnerable economies
- Economic uncertainty
Mode 7: Models, simulations, interactive games

- Economic models
- *Limits to Growth*
- World modelling
- World building games
Interactive modelling: *Soda constructor*

http://sodaplay.com/constructor/player.htm?
Mode 8: Circular relationship maps & loop representation

- Netmap
- UIA maps
- Loops
Crop rotation as a policy metaphor

Illustration of a sustainable 4-cycle policy
## Progressive refinements of problem loops

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**Deforestation**

*Overview of loop patterns* for problems that Deforestation *aggravates*. Table 1 shows chain of impacts (presented *elsewhere* as a nested loop list). **Max. number of loops currently listed** = 15 (of 49).

- Each row of table is a loop (starting from left-most coloured column).
- First (left-most) coloured column items impact second column items (2nd column items impact 3rd, etc).
- Last column items loop back to impact those in first column.
- The pattern is helpful in highlighting questionable links and errors.

Table 2 gives names of problems in cells of Table 1. Click on any links in Table 2 to access profile (from which other types of information can be requested). Switch to the *alternative presentation* to get an overview for problems that Deforestation is *aggravated by*.

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VRML Example: World problem loop interlocks

Problem E8516: Lack of credit facilities for agricultural producers
VRML Example: World problem loop interlocks

Problem C0805: Underprivileged racial minorities
Netmap transaction analysis
Mode 9: Multi-media, aesthetics

• Multi-media:
  - Beyond text >> Visualization
    - Interactivity

• Sonification
  - Comprehending complex pattern through sound
Mode 10: Mapping complexity plane

Mandelbrot set fractal

(vertical axis="real", negative at top; horizontal= "imaginary")
Comprehensible mapping of complexity

- Search for a “surface” onto which complexity can be mapped
- Challenge of mapping strategic & value dilemmas
- “Real” vs “Imaginary”
- Mapping network of terror (“real” and “imaginary”)
- *Psycho-social Significance of the Mandelbrot Set: a sustainable boundary between chaos and order* (2005)
- *Sustainability through the Dynamics of Strategic Dilemmas: in the light of the coherence and visual form of the Mandelbrot set* (2005)
Mode 11: Spherically configured 3-D structures

- Polyhedra
- Tensegrity (*Syntegration*)
- Virtual reality
- Spherical accounting
VRML Example: Organizations (World Bank system)
Tensegrity in virtual reality
VRML Example: Organizations (EU system)

GIEWS - Global Information and Early Warning System on Food and Agriculture
Vulnerability of marriage as an institution

Discrimination against women

Virtual reality configuration of relationships from World Problems database (see below)
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Mode 12: Transformable structures, morphable images

- Vector equilibrium ("Jitterbug")
- Morphable images
Resonance hybrids: key to future sustainability?
“Dodecameral” integration
Transformations of vector equilibrium
UIA Links

Anthony Judge:
Email: Anthony.Judge@gmail.com
Web: http://www.laetusinpraesens.org
This presentation:
http://www.laetusinpraesens.org/docs00s/untelos2.pdf
Associated text (and references):
http://www.laetusinpraesens.org/musings/untelos.php

UIA home page
http://www.uia.org/
Online database access
http://www.uia.org/data.htm
Some related texts

- Animating the Representation of Europe (2004)
- Spherical Accounting: using geometry to embody developmental integrity (2004)
- Simulating a Global Brain: using networks of international organizations, world problems, strategies, and values (2001)
- Coherent Policy-making Beyond the Information Barrier (1999)
- From Information Highways to Songlines of the Noosphere: Global configuration of hypertext pathways for meaningful collective transformation (1996)
- Aesthetics of Governance in the Year 2490 (1990)