VicHealth

Exploring Boundaries, Expanding Horizons – Ecological Challenges to Health Promotion

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Total Health?

Thesis: Healthy ecosystems support healthy people within healthy communities (natural capital, ecosystem services, fecundity, symbiosis and environmental justice)

Antithesis: Sick ecosystems (ecosystem distress syndrome) produce sick people within sick communities (unsustainable exploitation, despotism, gross parasitism and environmental injustice)
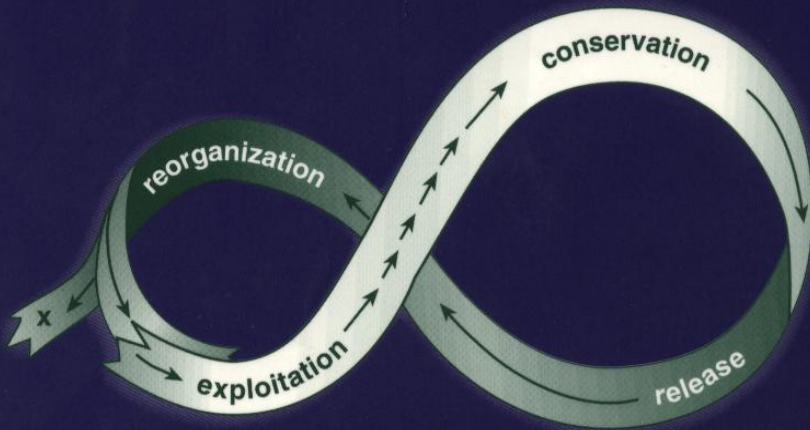
Health?

The actualisation of full self generated **potential** in both ecosystem and social contexts

Achieved via dissipative processes within and between nested complex adaptive systems (Solar system, Gaia, biomes, ecosystems, organisms, cells)

Complete Panarchy!

A term that describes the adaptive and evolutionary nature of cycles that are nested one within the other across space and time scales

… from Pan, the God of Nature … both creative and destructive

The 4 phase adaptive cycle seeks to explain the evolution of such systems and to suggest both change and intervention strategies so as to achieve desirable and possible end states

Key Theme: Reciprocity

Humans have always lived within ecosystems, influenced by them, and, in turn, influencing them (co-evolution)

Ecosystem Health in Victoria: the Check-up

- 70% of land cleared in 200 years
- 44% plants extinct or threatened
- 1/3 of rivers in poor condition
- Huge CO_2 emissions (world's highest?)
- 200% increase in groundwater use over past 20 years
- Victoria's ecological footprint 4th highest in the world! (4 planets worth)

    Overshoot - overdraft – over the top!

Human Health Check-up in Victoria?

- Ischaemic Heart disease (leading cause of death)
- Respiratory disease
- Lung Cancer (men) Breast Cancer (women)
- Mental illness (suicide, in males)

Risk factors:

- Overweight
- Stress
- Rural location (life expectancy lower)
- Indigenous (8-18 years less than non-Indigenous)
- Solastalgia (melancholia/distress at home)

The Relationship Between EH and HH

- The "surf and turf" diet (seafood, red meat and dairy) has high energy inputs and large ecological impacts (water)

- Despite being the second smallest State, Vic has the highest transport component of its EF

- Big energy consumption in the domestic sector

Vic. now a world leader in consumer consumption as represented by the Western life style … reciprocity is lost … humans are overwhelming their climate, ecosystems and the services they provide

The Analysis: Complex Systems

Can self-regulate toward greater complexity
- – constructive role of disturbance (fire)
- – spontaneous self-organisation
- – resilience in the face of perturbation

Or, can fall apart into genuine chaos
- too much disturbance (fire)
- flip from stable to unstable states
- lack vigor and resilience

Attractors

Attractors, or factors that influence system evolution, can be identified and studied (Greenhouse effect, intensive agriculture, mad car disease, the new urban pathology)

Global attractors now more powerful than continental or regional attractors

Health, Complexity & Transdisciplinarity

- System complexity **demands** perspectives that transcend traditional disciplines
- Common system properties at all scales encourage Transdisciplinary (TD) thinking
- Identification of attractors a TD task
- Dynamic interrelationships between distant variables demand TD thinking
- Emergent properties of systems discovered by TD investigation
- TD thinking creates synthesized knowledge in the form of novel conceptual frameworks

Transdisciplinary (TD) Space

- All ecohealth issues exist in TD space
- They are the outcomes of many factors operating through and across levels in the total environment
- Multiple perspectives are required to 'unpack' complex causal pathways
- TD collaboration maximises possible explanatory power
- TD explanations have the potential to deliver the most 'leverage' to solve problems by changing ecohealth attractors

TD Approaches to Risk

Risk Taking and Health Promotion

Individualistic approach (behaviour change)

- Risks taken by people who ignore health implications
- risk and the health effects can be close together (car racing) or far apart (smoking)
- Risk takers are (usually) consenting
- Risk attractors link behaviour to cultural norms (hot cars, male pride, advertising etc)
- Consistent with 'neocon' individualism

Risk Imposition and Health Protection

- Structural perspective (social change)
- Risks imposed by power structures that ignore or destroy ecosystem health
- Often risk imposition and effects far apart in time (asbestos, land clearing, CJD)
- Many innocent non-consenting victims (eg children) with failure to consider key sustainability principles (equity, P.P.)
- Systematic examination of structures reveal risk attractors (corrupt EIA, Globalisation)
- Consistent with interventionist government

EcoHealth Implementation

Health Promotion: not likely to address system level causal factors and hence, is unlikely to be relevant to ecohealth issues

Health Protection: will tackle up-stream causes if the political will to implement policy and legal change agents is present (not likely!)

Health Participation: engage individuals, groups, corporations and communities in behavioural <u>and</u> structural change at all levels of the TD Ecohealth Panarchy … Healthy Country … Healthy People (universalised)

Health Participation

Physical environment: more <u>people</u> 'power' (cycleways, walkways, runways, promenades, stairways, meeting spaces, exercise precincts, community gardens, city farms)

Eco-environment: more native re-vegetation corridors built and maintained by bioregional citizens growing an 'endemic sense of place' (Green Corps). National feral eradication programs [Feral Corps] rebuilding endemic Australia (cane toads go!)

Social environment: more support for human <u>involvement</u> in the physical environment (Rural and Urban Landcare Centres)

Mental Environment: huge environmental education about endemic sense of place, EFA, EH and other sustainability indicators to overcome *solastalgia*