

willvarey

sustainable psychosystems



ecological complexity to psychological panarchy

“in six easy steps”



ecological complexity to psychological panarchy

Proposition #1 : Living systems grow in complexity and diversity

Proposition #2 : Essential functions support more complex ones

Proposition #3 : Thinking systems are like ecosystems supporting life

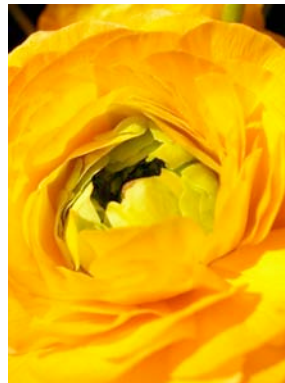
Proposition #4 : Psychoservices are like ecoservices supporting thought

Proposition #5 : Sustainability comes in many sizes and forms

Proposition #6 : All forms need integrity to make a sustainable society

Conclusion : A healthy society has evolutionary sustainability capacity

prop #1 ~ layers of complexity and diversity



“The universe is a systems hierarchy. It has evolved in a cumulative manner, each higher step... consisting of a lower step component plus a new entity which has emerged ... mutually modified. The world is therefore at the same time “richly strange and deeply simple”.

(Haskell, 1972)

prop #2 - essential functions support other

“A system’s resilience is influenced by both within-scale and cross-scale diversity of function.”

(Allen and Holling, 2008)



prop #3 ~ thinking systems as ecology of parts



“Systems of personality and culture, and concepts of maturity are only momentary systemic organisations of existential states in the current environmental circumstances.”

(Graves, 2005)

prop #4 - psychoservices providing essential

“Ecosystem services are generated by a complex of natural cycles, ...the product of billions of years of evolution. They are absolutely pervasive, but go unnoticed by most human beings going about their daily lives.”

(Daily, 1997)



prop #5 ~ sustainability in forms and sizes



“No individual or group has yet grasped the whole picture; not all the parts of the puzzle are in existence; but when we make an inventory of what this organisation is doing here and what another is doing there, the bigger picture emerges”

(Dunphy, 2003)

prop #6 - integrity of form as societal well-being

“New levels will emerge that will be the context for parts of the system that existed before the management effort. The new system order will depend on the continued existence of the old system parts now held together in a new form.”

(Allen, Tainter and Hoekstra, 2003)



landscape view



sustainability in forms and phases

Phase	I	II	III	IV	V	VI
Dunphy et al. (2003)	Rejection	Non-Responsive	Compliance	Efficiency	Strategic Proactivity	Sustaining
McEwan & Smith (2008)	Usual	Comply	Volunteer	Partner	Integrate	Redesign
van Marrewijk (2003)	Pre-Aware	Compliance	Profit	Caring	Synergistic	Holistic
Wiley (2005)	Pre-Sustainability	Weak Sustainability	Non-Integrated	Conflicted TBL	Integrated TBL	Integrated Sustainability

beyond monological impact assessment

Any integration of assessment methodologies into an assessment based on sustainability principles may include the processes and expertise of any, or all, of the disciplines of environmental impact assessment (EIA), strategic environmental assessment (SEA), environmental and social impact assessment (ESIA), political and policy assessment (PPA), privacy impact assessment (PIA), economic and fiscal impact assessment (EFIA), technology impact assessment (TIA), demographic impact assessment (DIA), health impact assessment (HIA), social impact assessment (SIA), urban impact assessment (UIA), biodiversity impact assessment (BIA), cumulative effects assessment (CEA), triple bottom line assessment (TBL), integrated impact assessment (IIA), sustainability appraisal (SAp.) and sustainability assessment (SA). With increasing plurality comes the need to harmonize complexity.

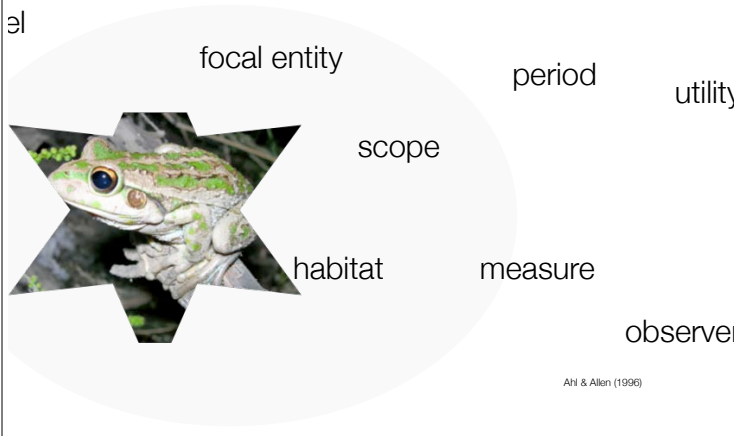
Definitions of forms

evolutionary SA ~ focus on balance of possibilities
 prospective SA ~ focus on needs of prospects
 strategic SA ~ focus on appropriateness of PPP
 sustainability A ~ focus on benefits of proposal
 multiple impact A ~ focus on tradeoffs of project
 single impact A ~ focus on single impacts of project

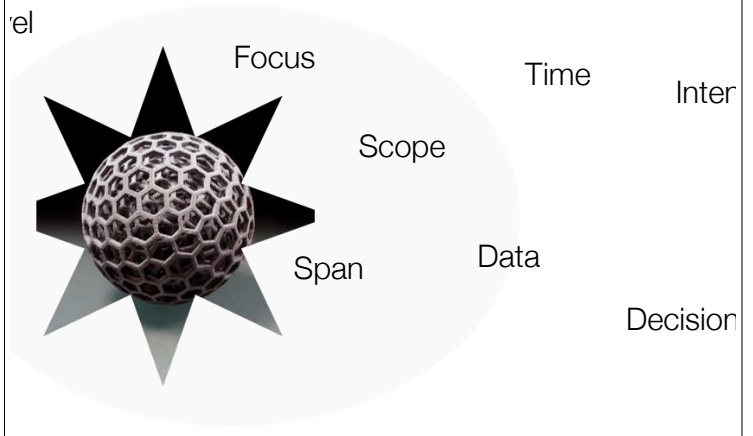
Spatiotemporal extension

Sustainability VI	ESA	Evolutionary	Generational
Sustainability V	PSA	Prospective	Projected
Sustainability IV	SSA	Strategic	Program
Sustainability III	SA	Sustainable	Project
Sustainability II	MIA	Integrated TBL	Plan
Sustainability I	EIA	Environmental	Study

Ecological research



Psychosystem research



Sustainable psychosystem matrix

Level	Focus	Span	Time	Scope	Data	Decision	Intent
ESA	Probable	Futures	Possibilities	Societal	Trends	Essentials	?
PSA	Prospect	Scenarios	Portfolios	Community	Models	Variants	Deliberator
SSA	PPP	Implications	Projects+	Sectoral	Alternatives	Principles	Taskforce
SA	Proposal	EES	Period	Proposer	Tradeoffs	Criteria	Panel
MIA	Project	T.B.L	Propose	Owner	Benefits	Balance	Authority
EIA	Problem	Environ	Process	Assessor	Impacts	Threshold	Agency

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stainable psychosystem matrix

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essage ~

“The very best knowledge,
with the wrong inquiry,
leads only to miserable
ignorance.”

axim ~

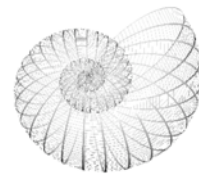
“The right knowledge, in the
appropriate inquiry,
contributes to our well-being
immeasurably.”



ferences

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, & Allen, T. F. H. (1996). Hierarchy theory: A vision, vocabulary, and epistemology New York: Columbia University Press.

C. R., & Holling, C. S. (Eds.). (2008). Discontinuities in ecosystems and other complex systems. New York: Columbia University Press.

T. F. H., Tainter, J. A., & Hoekstra, T. W. (2003). Supply-side sustainability. New York: Columbia University Press.

G. C. (Ed.). (1997). Nature's services: Societal dependence on natural ecosystems Washington D.C.: Island Press.

ry, D., Griffiths, A., & Benn, S. (2003). Organizational change for corporate sustainability: London: Routledge.

s, C. (2005). The never ending quest. Santa Barbara, CA: ECLLET Publishing.

ll, E., Cassidy, H., Clark, J., & Jensen, A. (Eds.). (1972). Full circle: The moral force of unified science. New York: Gordon and Breach.

en, C., & Schmidt, J. D. (2007). Leadership and the corporate sustainability challenge: Mindsets in action. Roswell, GA, USA: Avastone Consultin

arrewijk, M., & Werre, M. (2003). Multiple levels of corporate sustainability. Journal of Business Ethics, 44(2/3), p. 107.

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