

## **TIME AND DYNAMIC BOUNDARIES: THE IMPACT OF ACTION BASED LEARNING**

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### **ABSTRACT**

This work aims at opening for discussion the understanding of the “time” element that is critical for longitudinal development of robust group or action based community activity. The discussion is based on work occurring in multiple sites within a global project “The New Global”.

The learning cycles or epicycle processes are relevant for action-based investigation for organizational and social structures. The question of group behavior maybe influenced by their positioning within a larger adaptive system, the type of focus or determined goals and the type of connections that have been developed.

The author has stated previously (Nousala 2014) that these types of community or group efforts be described as autopoietic systems, that are operating within larger adaptive societal web. The learning process involved in investigating these types of dynamic phenomena need to be themselves dynamic, providing methods that can explore, through longitudinal cycles expose these epicycles at work. The continuous recording of various processes through epicycles provide a means to “qualitatively measure” changes, which would normally go unseen (Hall et al. 2012; Hall et al., 2005; Nousala and Hall 2008; Wenger and Snyder 2000).

These recorded shifts in process provide a means to apply the action-based knowledge gained through project based learning for problem based solving. The success of applying action-based knowledge outcomes really relies on the quality of providing meaningful longitudinal approaches for mapping and recording changes in epicycles. This work This work aims at an exploration through current discussion, discourse and literature regarding the importance of time within the longitudinal approach, posing the question, what lengths of time are required or relevant to develop robust groups or community based actions?

**Keywords:** Time and longitudinal development, action based knowledge, learning cycles and approaches, robust groups/communities.

### **THE INNOVATIVE ECO-SYSTEM AND THE EDUCATIONAL PLATFORM APPROACH**

Dynamic, expansive eco-systems in which we find ourselves existing and working are both challenging and promising. There is a need to not only understand these environments but to navigate them successfully (Nousala and Garduno 2013). Various different descriptions exist regarding the influences and different areas of focus between sustainable development and sustainability. It brings to mind the concept of focusing on the symptoms rather than the cause, as Asghar (2001) puts it, linking poverty and pollution, social justice with unsustainability.

Looking at these issues and their links as living eco-systems, in a social, economic and biological sense, expands the notion to include the possibility to view these combinations as holistic living systems, that are in themselves, adaptive complex systems, with many components and properties (Nousala et al 2012: Nousala and Hall 2008: Hall et al 2010: Nousala and Garduno 2013). There are other broader perspectives that voice a need for more multi-layered approaches, for example, this Brundtland Report quote, “...the futility of focusing or dealing with the environmental problems without viewing these issues through a

wider lens, to encompass the factors that underpin world poverty and international inequality (Brundtland Report WCED 1987, p3).

This paper discusses the focused collaborative activities proposed by the New Global project (a multi-disciplinary engagement of multiple global sites, with the ability to perform international comparative analysis on multiple levels), that examines concepts of sustainable innovations emerging from market eco-systems, community engagement and methodological approaches (that include the complex adaptive systems view). The discussion also includes a “mirror image”, or reflection as a response to the expansion of educational experiences observed in the field, evolving into platforms of exchange. These educational experiences and evolving platforms, also reflected learning outcomes through different levels of activity during fieldwork. These learning outcome activities focused on, supported and were influenced by sustainable innovation, society impacts and the holistic view to eco-systems and complex systems. In other words, creating continuous cycles that could include multiple levels simultaneously. This dynamic combination of concepts, were operating at physically a nexus of several educational pilot projects (engaged within corresponding eco-systems) that were brought together in a global project, with the new possibility of international “spontaneous” comparative analysis. These experimental field studies have to date, been based on previous research, current literature and on-going fieldwork engagement with a range of differing communities (Nousala et al. 2012: Nousala and Garduno 2013: Nousala 2013).

## **BOUNDARIES AND THEIR IMPACTS**

Linklater (1990, p. 149), describes boundaries as having bottom up impacts on the local level through global concerns, “The State, as it has developed from the European experience through the treaty of Westphalia in 1648 and onwards...sought to limit the scope of both sub- national and transnational solidarities and identities... because of the fear of its internationalization, the idea of community has thus remained limited to the boundary of the nation-state”.

The current educational pilot projects discussed in this paper, have been designed (including more holistic design based approaches of inclusiveness and longitudinal development) to impact one another through engagement and comparative analysis, testing local levels whilst simultaneously looking at global concerns. This tension between boundary levels of society, creates the need to address such layers in a way that engage “like for Like” across *living eco-systems, that are not necessarily compatible with economic structures (including social, economic and biological elements). This horizontal approach has the ability to extend beyond the individual and group to merge with the emergent social innovations of market eco-systems* (Hall and Nousala 2010: Nousala et al. 2009: Nousala and Hall 2008: Nousala and Garduno 2013:Salthe 1985).

## **REFERENCES**

- Asghar, Ali, 2001, “A Conceptual Framework for Environmental Justice based on Shared but Differentiated Responsibilities”, CSERGE Working Paper EDM 01-02, School of Environmental Sciences and The Centre for Social and Economic Research on the Global Environment University of East Anglia Norwich NR4 7TJ, Norfolk UK.
- Hall, P. W., Nousala, S., Best, R and Nair, S., “Social Networking Tools for Knowledge Based Action Groups”, Book chapter, Computational Social Networks: Tools, Perspectives and Applications, Abraham, Ajith; Hassanien, Aboul-Ella (Eds.) 2012, XIII, 470 p. 198 illus, Springer Verlag, London.

- Hall, W. P., & Nousala, S. (2010). Autopoiesis and knowledge in self-sustaining organizational systems. 4th International Multi-Conference on Society, Cybernetics and Informatics: IMSCI 2010, Orlando, Fla., June 29th - July 2nd, 2010 - <http://tinyurl.com/2ew5wde>.
- Linklater, A., (1990), The problem of Community in International Relations, *Alternatives* 15: 135-153.
- Nousala S., "The Sustainable Development of Industry Clusters: Emergent Knowledge Networks and Socio Complex Adaptive Systems". *Journal of Systemics, Cybernetics and Informatics, (JSCI)* Vol. 7, Number 5, 2009.
- Nousala, S. & Hall, W. P. (2008). Emerging autopoietic communities – scalability of knowledge transfer in complex systems, *Proceedings of the 2008 IFIP International Conference on Network and Parallel Computing, Shanghai, China, October 18-19, Washington, DC: IEEE Computer Society, pp. 418-25* - <http://tinyurl.com/25khr3o>.
- Nousala, S., Hall, W. P., "Emerging Autopoietic Communities – Scalability of Knowledge Transfer in Complex Systems", 1<sup>st</sup> International workshop on distributed management, DKM October 2008, Shanghai, China.
- Nousala, S., Miles, A., Kilpatrick, B., & Hall, W.P. (2009). Building knowledge sharing communities using team expertise access maps (TEAM). *International Journal of Business Systems Research*, 3, 279-296 - <http://tinyurl.com/24lf6lt>.
- Nousala, S., Moulet, A., Hall, B., Morris, A., 2012. A Poly-disciplinary Approach: A Creative Commons for Social Complex Adaptive Systems, *Book of Abstracts pp79-79, ECCS 2012, European Conference on Complexity Systems, Brussels 2-7 September 2012*.
- Salthe, S. (1985). *Evolving Hierarchical Systems: Their Structure and Representation*. New York: Columbia Univ. Press.
- W.P. Hall, P. Dalmaris, S. Nousala, "A biological theory of knowledge and applications to real world organizations". *Proceedings, Know Mgmt Asia Pacific (KMAP05)* , Wellington, N.Z. 28-29 November 2005. Available:
- Wenger EC, Snyder W (2000) Communities of practice: the organizational frontier. *Harvard Bus Rev*, 78(1), 139-145
- World Commission on Environment and Development (WCED), (1987), *Our Common Future* (Brundtland Report), Oxford University Press, Oxford.

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