

# Metaphorum Conference

## 'Action Research and Organisational Cybernetics'.

### Hull University Business School

June 30<sup>th</sup>, July 2<sup>nd</sup> 2008

#### Metaphorum Conference

#### 'Action Research and Organisational Cybernetics'.

Monday 30<sup>th</sup> June

Time	Session	Speaker	Title
9:30-10:15	<i>Registration and Coffee</i>		
10:15 – 10:35 am	<i>Opening and introductions</i>	Prof. Mike Jackson A. Espinosa & R. Harnden	Welcome
10:35 am - 12:05 pm	<i>Action Research in Business and Management I (Chair A Espinosa)</i>	Luc Hoebeke (20 mins)	Learning the VSM-language from experience, not from the classroom
		Steve Morlidge (20 mins)	Money, Time and Variety Engineering: the application of cybernetics to the diagnosis and design of Financial Performance Management Systems
		Stefan Wasilewski (20 mins)	Emergence of Viable Businesses from a Complex Economic Landscape in the Banking and Insurance Industries
		Discussion (30 mins)	
12:05-1:05 pm	<i>Organisational Cybernetics in Education and Learning (Chair A Espinosa)</i>	Robin Asby Penny Marrington (20 min)	Education and learning: creating the autonomous survivor?'
		Mark Johnson (20 min)	The Viable System Model, Learners and self-efficacy
		Discussion (20 mins)	
1:05-2:00 pm		<b>Lunch (&amp; ask)</b>	(Opportunity for students to question experienced practitioners ---- look for designated tables)
2:00-	<i>Complexity &amp;</i>	Angela Espinosa	Complexity Management and Sustainability:

<b>3:40 pm</b>	<b><i>Sustainability (Chair R Harnden)</i></b>	(10 min)	Research Approaches and ongoing Projects
		Russell Clemens (20 min)	Applying the VSM to Environmental Scanning and Foresight Development: A system 4 Perspective on the Meta-system Communication Dynamics for Success
		Pedro P. Cardoso (15 min)	Self organisation in community regeneration
		Kathryn Knowles (15 min)	A Cybernetic Approach to Environmental Management Systems and the Engagement of an Organizations' Culture
		Discussion (40 min)	
<b>3:40– 3:55 pm</b>		<b>Coffee Break</b>	
<b>3:55- 5:30 pm</b>	<b><i>Cybernetics, Science and Philosophy</i></b>	Javier Livas	The Kuberbetes Universe – Film and discussion

## Tuesday July 1<sup>st</sup>

9:00 – 10:00 am	<b>Global, national and regional Governance</b> (Chair – R. Harnden)	Leonie Solomons <i>Workshop</i> (1 hour)	Governance Issues in Sri Lanka, A Cybernetic Diagnosis and Solution 'Process': <i>Workshop</i>
10:00-11:00		Michelle Watts (20 min)	Collaborative implementation network structures: Cultural tourism implementation in an English seaside context
		Jon Walker (20 min)	A Global Meta-system for a Viable Planet
		Discussion 20 mins	
11:00-11:20 am		<b>Coffee Break</b>	
11:20 - 12:20 pm	<b>Methods and Tools I</b> (Chair: L Hoebeke)	Arthur Dijkstra & Steve Brewis <i>Workshop</i> (1 hour)	VSM Modelling of an airline organisation Document for preparation: <a href="#">ACOSM.pdf</a> : Aim: to assign systems 1s of the generic airline model.
12:20-1:20 pm		<b>Lunch &amp; Ask</b>	(Opportunity for students to question experienced practitioners ---- look for designated tables)
1:20-2:20pm	<b>Methods and Tools II</b> (Chair: L Hoebeke)	Gabrielle Harrer (20 min)	Systemic and cybernetic planning and management with the "Sensitivity Model of Prof. Vester
		Mari Runardotter (20 min)	Organizational Issues for Digital Preservation
		Discussion (20 min)	
2:20-3:10 pm	<b>Conflict resolution</b> (Chair A. Leonard)	Dennis Finlayson <i>Workshop</i> (40 min)	A 'Soft' approach to 'environmental conflict resolution' and other community action research situations: A Case study on the Amnesty Group in Arauca, Colombia
3:10 - 3.30 pm		<b>Coffee Break</b>	
3.30 – 5:30 pm		Allenna Leonard & Angela Espinosa	<b><i>Workshop: Metaphorum as a learning community</i></b>

Hull Business School Derwent Building -  
Seminar Room 5 (SR5) –all talks/ workshops  
Seminar Room 3 (SR LT3) – break out discussion groups

**Wednesday July 2<sup>nd</sup>**  
**Worskhop – training**  
**Systemic and cybernetic planning and management**  
**with the “Sensitivity Model Prof. Vester®**

**Gabriele Harrer**  
**9:30 am – 4:00 pm**  
**Seminar Room LT3**

Hands on Training with the biocybernetic instrumentarium "Sensitivity Model Prof. Vester®" and its computerized 'System Tools' on complex problems of economical and political planning and management.

1. Introduction in Frederic Vesters system oriented approach to tackle with complexity.
  2. Practical Examples of System Studies, carried out with the Sensitivity Model (e.g.Management, Regional- and Traffic Planning, Social Systems)
  3. Experiencing a first practical example and the nine recursive steps of a System Study by building up a preliminary model (Subject Choice of Participants)
    - System description
    - Set of Variables and description
    - Systemic check with the Matrix of Criteria
    - Evaluation the mutual influences in a cross-impact-matrix
    - Interpretation of the Cybernetic Role and Character of the system
    - Visualization the interconnected system and analysis of feedbackcycles
    - Development of Partial Scenarios for detailed “If-Then” Questions
    - Transparent and Fuzzy Simulation
    - Biocybernetic evaluation of the system and development of sustainable solutions.
-

## **Learning the VSM-language from experience, not from the classroom**

### **Luc Hoebeke**

VSM is a language. A language only gets meaning through experience.

How can in various contexts in a participative way the VSM language be linked to the experience of people not acquainted with the language?

This is the essence of action-research approaches with the VSM, combined with Checkland's SSM and Jacques' time span concepts.

---

### **Short CV**

Luc Hoebeke studied electronics and nuclear engineering at the University of Leuven (Belgium)

Very early in his career he started to use the VSM as a language to deal with complex organizational and social issues.

He developed and still is developing action research methodologies to deal with those issues.

The results of these developments are to be found in articles, contributions to books and one book: Making work systems better.

# **Money Time and Variety Engineering: the application of cybernetics to the diagnosis and design of Financial Performance Management Systems**

**S Morlidge**

## **Abstract**

Money is an important tool for variety engineering in organisations: the application of financial resources helps amplify variety; its withdrawal attenuates.

Conventional approaches to the management of financial resource rely heavily on the concept of budgeting. Since budgeting imposes closure (in time) on an open system and requires that many regulatory acts be carried out on predetermined (annual) cycle it demonstrably does not have requisite variety, particularly in the current turbulent business climate and when faced with demanding (low variety) goals imposed by stakeholders. A cybernetic analysis of this situation postulate that this lack of requisite variety could manifest itself as underperformance, the loss of autonomy or attempts to restore the variety balance by unregulated, and perhaps dishonest, means.

The practice of annual budgeting has not, however, been seriously challenged by systems theorists or practitioners. Stafford Beer himself recognised the cybernetic flaws in conventional practice but left few clues about how to design and operate a cybernetically sound practice.

This paper sets out how the cybernetic regulation of the flow of financial resources might be incorporated into the framework provided by the Viable Systems Model and what the implications of this might be for the diagnosis and design of systems in practice.

---

**Steve Morlidge**

### **Qualifications**

- 2004 commenced PhD – Hull University
- 1980 qualified Chartered Institute of Management Accountants
- 1978 BA (Hons) Durham University

### **Practical Experience:**

- 2006 Associate Director of Beyond Budgeting Round Table
- 2006 Founding Director of Satori Partners Ltd (Consulting)
- 2002- 2006 Unilever PLC - leader of global change project (Dynamic Performance Management)
- 2002 – Member of Unilever Finance Strategy Team, Founder member of Unilever’s Finance Academy

- 2000-2001 Leader of Unilever UK/Bestfoods Integration team
- 1992 – 2000 Financial Controller of Brooke Bond Foods and after merger, Van den Bergh Foods Ltd (\$1 billion turnover)
- 1978 – 1992 Unilever - various financial roles
- 

### **Other Experience**

- Founder member of Beyond Budgeting Round Table 1998
- Chairman BBRT 2001 – 2006.
- Contributor to various publications including Hope, 'Beyond Budgeting: how managers can break free from the Annual Performance trap' HBS Press 2003, Hope, 'Re-inventing the CFO' HBS Press 2006, Read, 'Creating Value in a Regulated World, Wiley 2006.
- Extensive experience in speaking, public and in house, in support of BB ideas
- Internal Unilever publications supporting DPM, and Financial Forecasting
- Associated with SCIO (Systems and Cybernetics in Organisations) Metaphorum and Control Charting Group
- Currently book on forecasting – anticipated publication Spring 2009.

**Emergence of Viable Businesses from a Complex Economic  
Landscape in the Banking and Insurance Industries  
Stefan M. Wasilewski**

‘The Map is not the Territory’, and yet we persist in finance/economics to paint the world using mathematics alone. Complexity Economics on the other hand tries to involve General System theory and Chaos in the mix describing a world of strange attractors, social behaviour and networks but to me it still seems incomplete without good reference to cellular automata, Stafford’s VSM and the work of Maturana/Varela.

As recent as June 19<sup>th</sup> the derivatives market is ignorant of the complex nested networks that society builds because they continue to refer to a 2-dimensional world devoid of a proper account of Time and the complex iterative effects their products have on the world: If they looked at themselves as Weathermen they would already know where the chaos is coming from.

From my point of view if we look at the world as the context for financial interaction, upon businesses as transitory agents with simple rules then we could describe economics as a nested set of systems grouped by industry with competing goals and resources.

The problem facing us is how and when does a business become a system fitting Maturana/Varela’s definition, and what rules should we append. Here I believe the VSM has already done the job but in getting internal consistency we need to know what data is needed: It would seem to me that data already in existence is too complex and generally irrelevant.

In resolving many of the questions posed to me in business the same problems occur and can be solved if better metrics were designed and a more fuller understanding of Time investigated in the instruments needed to manage risk.

## **Brief cv**

Stefan M Wasilewski is 56-years old and lives in Oxshott, Surrey with Sue his wife and two children (David:23, Laura:18). Stefan has applied to Hull University to do a PhD in the above area following 40-years of risk management, finance, economics and insurance.

Stefan has worked in; insurance as both broker and underwriter; banking as capital markets advisor; and has started three businesses the latest focused on a new type of insurance product 'Synergy Microcaptive' a one-stop-shop for insurance risk cover.

As an ex-UK Olympic Sabre Team member he loves sport, has been in the National Youth Orchestra (trumpet) and still plays many instruments.

He is currently starting a new finance product called Contingent Capital (he created in 1994).

## **Education and learning: creating the autonomous survivor? Robin Asby and Penny Marrington**

In educational and management terms in particular secondary schools are unusual organisations in that they seem to be based on principles of learning and management that were extant before the year 1900. In design and operation they break many of the rules of what is now thought to be good management and also seem to take little notice of theories of learning.

We report our work in progress on several fronts. Using the VSM as the starting point for modelling the human animal in its environment and the way in which it constructs viability we investigate the implications for learning and teaching.

***Complexity Management and Sustainability:  
Research Approaches and ongoing Projects***  
**A Espinosa**

There is a clear suggestion in current research towards sustainability on the need for innovative, holistic approaches to re-understand the complex systems and interactions conducive to sustainability. In this session I shall introduce my current research –as well as introduce my PhD's research, in exploring ways of developing further Stafford's language and tools to support sustainability programs and networks. The research is focus on an understanding of complexity from different theoretical approaches and in particular issues of self-organisation in communities striving for their sustainability.

---

***A. Espinosa***  
**Brief c.v.**

Angela got a BSc in computer and systems engineer in Los Andes University, Colombia, in 1981. After working some years as a systems analyst and researcher, she led the Secretariat of Information and Systems at the Colombian President's Office in 1990-1992. In 1995, she got a PhD on organisational cybernetics and strategic information management, at Aston Business School, Birmingham, UK.

From 1995 to 2001 she taught at Los Andes University and did part time consultancy to the government through multilateral agencies (International Development Bank, United Nations); most projects used systems and cybernetics to support organisational development and strategic use of information technologies. From 2002 she has been lecturing and doing research at Hull Business School. Her current research focuses on complexity management, democracy and sustainability.

**APPLYING THE VSM TO ENVIRONMENTAL SCANNING AND FORESIGHT  
DEVELOPMENT: A SYSTEM FOUR PERSPECTIVE ON THE META-SYSTEM  
COMMUNICATION DYNAMICS INVOLVED IN SUCCESS**

**Russell Clemens**

*Abstract:* A description of a three-part action research/learning project, and subsequent intermediate results, through a VSM framework. Innovative approaches, involving futures thinking, scenario orientated narratives and risk assessment were applied to a corporate planning environmental scanning process. A participant observer stance was applied to the task of ongoing engagement and communication with senior public sector executives. A focus was given to the leadership opportunities offered by using foresight techniques in conjunction with policy development. The Viable Systems Model's (VSM) value in guiding and interpreting the research is discussed. A brief outline of possible future research directions is provided, including: (a) the construction of a decentralised "Development Directorate"; (b) evaluating modern complexity science based sense-making techniques; and (c) developing theory on governance and performance audit for sustainable development.

---

**Brief CV**

Name: Russell Clemens

Country: Australia

Qualifications: Bachelor of Business (Information Processing) 1979; Master of Futures Studies (MFS) 2005. Curtin University of Technology.

Employment: I worked in the information technology in many areas including applications programming, systems analysis, database administration, technical services management, and network systems design and implementation (1979-1999) in both public sector Health Services and Resource Industry focused organisations. I then moved into corporate planning and review (2000-2005). Currently I am working in a policy development area (2006-2008).

Interests: Futures studies and cybernetics as they apply to sustainability – i.e., intergenerational equity, governance for sustainability, integrated policy development. Currently preparing for a PhD research project focused on the System 4 'development directorate' perspective as described by Stafford Beer.

# **Self-Organization Principles: foundations of a methodology to improve regeneration programs in social communities**

**Pedro P. Cardoso**

A wild exploration on the evolution of the concept of self-organization is provided as initial point for the analysis of different alternative possibilities to develop a methodology to improve regeneration programs in social communities. Limitations in the traditional approaches to regeneration are highlighted as well as their relation with the particularities of human communities, and a set of open questions are presented to be discussed in order to solve contradictions and eventually create novel scenarios for the design of a methodological approach based in cybernetic principles.

---

## **Pedro Pablo Cardoso Castro Brief c.v.**

Marine Biology (Universidad Jorge Tadeo Lozano-Bogota/Cartagena – Colombia)

Merchant Marine Officer (Academia Naval Almirante Cristobal Colon – Sta Marta – Colombia)

Master in Environmental Auditing and Business Planning (Centro de Estudios Ecologicos – Malaga – Espana)

Master in International Commerce (Instituto de Estudios Bursátiles – Universidad Complutense –Madrid – Espana)

MPhil/PhD Candidate Hull University Business School UK

Consultant in strategic planning and international marketing, with emphasis in Small & Medium Enterprises.

Research activities in:

- Management systems and entry strategies to international markets in high technology SME`s.
- The services market to ALCA (Free Trade Area in the Americas) negotiations.
- Planning, implementation and auditing of environmental studies

Coordination of the project SME`s COLOMBIA –JAPAN to build contact and business match between Colombian and Japanese Hi-Tech SME`s. Technical assistance, marketing intelligence and marketing research for hi-tech products for the Central and South American market.

Lecturer at pre and postgraduate academic programs.

Thesis-research direction at MSc and MBA programs.

## **A Cybernetic Approach to Environmental Management Systems and the Engagement of an Organizations' Culture.**

**K Knowles<sup>1</sup>**

Summary: Traditional Environmental Management Systems (EMS) provide little guidance on methods to engage the culture of an organization, hindering the transition process by prolonging the establishment of environmental action as a normative behaviour. It is from this hypothesis that a new methodological framework is being trialled within the Scarborough Campus, which focuses upon enabling the organisations employees to develop their own bottom-up environmental strategy. This will be achieved, in part, through the use of Syntegrations and be supported by the development of an EMS designed upon the Viable Systems Model.

The proposed framework follows a seven stage process:

1. Diagnosis of existing culture and scaling of environmental prioritisation.
2. Identification and support of informal networks operating in environmental actions.
3. Collaborative design of environmental strategies through participatory discussion platforms.
4. Prototyping and monitoring of environmental strategies.
5. Design of structural mechanisms to foster cohesion and accountability of informal eco-networks.
6. Consolidation and reinforcement of metanorms.
7. Development of self-regulatory mechanisms for critical issues for sustainability.

This session Kathryn will present and discuss her approach and methodology to Environmental Management and the questions revealed through the first stages of her field work at Scarborough Campus.

---

<sup>1</sup> Kathryn Knowles got a 1<sup>st</sup> honours degree in Business and Management from Hull Business School,, Scarborough Management Centre in 2006. She is currently in her second year of the PhD program at HUBS

**UNIVERSO KUBERNETES (film)**  
**Javier Livas**

“The Universe seen through the lens of Cybernetics and Chaos theory is an attempt to answer some of the most perplexing questions ever asked by anyone who has contemplated the immensity of the universe.

The conclusions are surprising and are a result of the appearance of Cybernetics, the science responsible for the Digital era we live in. I hope that the answers are provocative and will stir some consciences. Knowing where we come from, what we are made of and what is our purpose is information that can make a big difference”.

**Short cv**

Javier Livas, Attorney and MBA born in Monterrey, Mexico on June 7, 1946. Better known as an activist for democracy during the 1980-2000 period. Worked with Stafford Beer trying to apply some cybernetic thinking in the Mexican government.

Has connected Beer's ideas in books about the theory of Law and the State, as well as personal power. THE CYBERNETIC STATE is written in English.

Has proposed several legal initiatives: on Electoral Laws, Transparency and a New Civil Procedures Code.

Lost internal race for candidate for the Mexican presidency in the PAN party in 1993.

Collaborated closely with Vicente Fox in 2000 campaign headquarters.

Wife Alma Nora and 4 children; a fourth grandson expected soon.

See more: [javierlivas.com](http://javierlivas.com)

**Governance Issues in Sri Lanka**  
**A Cybernetic Diagnosis and Solution 'Process' Proposal**  
Leonie Solomons, University of Sunderland

Leading from my doctoral thesis where I addressed governance issues facing Sri Lanka, two worthy generic research topics have emerged. The generic research pertains to countries facing heightened secession threats, which stated inversely relates to aspiring secessionists who seek land mass thus necessitating partition and formation of new sovereign borders.

The first area of generic research concerns, developing a way of assessing the strength of a secessionist's bid to achieve what I call 'operational viability' in the international arena. It is proposed that this assessment can be done from the perspective of what it takes to avert secession as much as it can be done from the angle of what it takes to achieve secession. What this paper outlines is the embryonic thinking of what such an assessment framework would look like.

The relevance of such assessment is that it has the value of being used as leverage for and during internal self-determination Peace Talks. In this sense, it is much like the leverage that the results of war obtain, but without the high social and economic price that such necessitates. Furthermore, the very assessment calls to attention the international dimension of secessionist bids and can serve to bring specific awareness of what it takes for a New State to survive in the international context and thus the reduced value of war.

Stemming from understanding what it takes for a New State to achieve 'operational viability' and the need to participate in the international interoperability systems (e.g. obtaining its international telephone dialing code) one discovers the UN has high variety absorbing power which can be usefully designed to guide internal self-determination Peace Talks. The question warranting research is - how can such be proposed to the UN and how can the opposing protagonist be attracted to the proposal of UN intervention. Early thinking on how to absorb the variety that such a question poses is addressed in this presentation.

To understand how these generic propositions arrive, this paper commences with outlining what was learnt from the diagnosis and 'process' solution proposed for Sri Lanka. It then switches to discuss the generic based on the constitutional compliance that arises when proactive and astute negotiators, negotiate from the position of keeping open their contingency position/s. In the case of internal self-determination negotiations, one such contingency is external self-determination which thus entails considerations of what it takes to achieve or avert operational viability of the aspiring New State.

---

**Leonie Solomons**  
**Short C.V.**

Leonie Solomons' doctoral research was devoted to cybernetically diagnosing the chronic crisis issues that beset Sri Lanka. Now from a generic perspective she researches sovereignty based conflicts where secession is threatened, in particular addressing what it takes to achieve or avert secession.

Prior to that, she worked for the Commonwealth Bank of Australia in various positions leading to Strategic Planner addressing disaster recovery planning for its banking driven computer installations. This work led to the recognition of the Bank's strategic weakness in the cultivation of its diverse computer skill set requirements and Leonie was appointed to head the Human Resources - Technology Team. Later, working for EDS Australia she worked on Australia-wide installation computer projects employing a novel supply strategy with Dell in Australia and Malaysia.

e-mail: [leonie.solomons@sunderland.ac.uk](mailto:leonie.solomons@sunderland.ac.uk)

Phone: 44(0)7501-459-036

Skype: leoniesolomons

Address: University of Sunderland,  
Room 215, St Peter's Campus (C&E)  
Sunderland, SR6 0DD  
United Kingdom

# 'Collaborative implementation network structures: Cultural tourism implementation in an English seaside context'.

Michelle Watts

*Scarborough Management Centre, University of Hull*

## Abstract

Strategic policy has to be implemented within complex operating environments where organisations have to operate within an inter-dependent production process in a dynamic mix of competition and cooperation. This suggests that network structures need to be in place that allow for both collaboration and competition whilst mitigating against structural fragmentation. The aim of this research is to further the understanding of control and communication mechanisms and collaboration in policy implementation networks and focus upon problems of both vertical and horizontal structural fragmentation in these complex policy environments.

This research uses a systems approach to develop a methodological framework based on work by Espejo (1989), and Beer's Viable System Model (Beer 1979, 1981, 1985) to attempt to address these issues. This study has further developed the framework with aspects of Social Network Analysis as expounded by Granovetter (1985). The placing of the research is within a tourism 'cluster' based in an English seaside context, which is that part of the Yorkshire coast covered by the Scarborough Borough Council local authority, where a new policy direction of cultural tourism is currently being implemented.

## References

- BEER, S. (1979) *The Heart of Enterprise*, Chichester, John Wiley & Sons.
- BEER, S. (1981) *Brain of the Firm*, Chichester, John Wiley & Sons.
- BEER, S. (1985) *Diagnosing the System for Organisations*, Chichester, John Wiley & Sons.
- ESPEJO, R. (1989) A cybernetic method to study organizations. IN Espejo, R. & Harnden, R. (Eds.) *The Viable System Model: Interpretations and Applications of Stafford Beer's VSM*. Chichester, John Wiley & Sons.
- GRANOVETTER, M. (1985). "Economic Action and Social Structure: The Problem of Embeddedness." *The American Journal of Sociology* 91(3): 481-510.

## Michelle Watts

### Short cv.

Currently in the fourth year of a PhD in Management at the Scarborough Campus of Hull University, Michelle also works part-time for Create Arts Development Ltd, a Scarborough based arts and culture development agency, where she has been involved in several research projects over the past five years. These include:

- **Scarborough Literature Festival Evaluation and Audience Survey** (2008), for Scarborough Library and Information Centre, North Yorkshire County Council.
- **'Transforming Festivals and Events'** (2006). A survey of current festivals and a business development plan for the festival sector in York and North Yorkshire for North Yorkshire Culture, Arts Council England and North Yorkshire County Council.
- **'Festival Survey of the Borough of Scarborough'** (2005) for the Yorkshire Coast Festival Association.
- **'Festivals and Events in the Borough of Scarborough'** (2003) for Tourism and Leisure Services, Scarborough Borough Council.

Previously she spent thirteen years in NHS finance in various roles including Management Accountant, Donated Funds Coordinator, Income Generation and Value for Money Officer. She has the Accountancy Technician (AAT) qualification and a BA(Hons) in Business Management and IT.

Her current research is in systems thinking, organisational cybernetics, networks, collaboration, cultural tourism and festivals.

**Global Meta-system : Viable Planet: An Invitation.**  
**Jon Walker**

The search for ways of dealing with the accelerating problems of climate change inevitably hit the brick wall of the complete absence of a democratic, people-centred Global metasystem. Currently business is organised globally: governments' powers do not extend beyond the Nation State. International agreements are accepted or rejected according to the politics of individual Nations, and are clearly not dealing with the problems.

Current solutions from NGOs including Contraction and Convergence, Cap and Share and others are couched in the Global meta-language. Without the appropriate metasystem to implement and police the proposals, the Corporate global metasystems will prevail and short-term profits will be chosen at the expense of long term viability.

Design of the Global metasystem has to be undertaken and will require radical changes in the way we govern ourselves. A simple extension of current models to the global level would be disastrous. Government has to be democratic (for the people, by the people, of the people), accountable and centred on issues of sustainability rather than perpetual economic growth. It remains to be seen how our current economic systems deal with zero-growth after the Oil Peak.

If complexity theory is right, we will rapidly find ourselves at a Chaos Point where the difference between break-down and break-through can be determined by very small changes. Work we do over the next few years may make a difference.

Stafford's work has the power to address these issues. This is an enormous task and, I believe, a job which needs to involve large numbers of people including the cybernetic community. Workshops and internet-groups are already being arranged to begin the process. It will involve huge amounts of work and dedication.

This is the challenge. Everyone is invited to get involved.

Jon Walker  
June 2008.



### **JON WALKER –PhD**

Jon has worked in the co-operative business sector since 1978. He has established and co-managed a range of businesses including retail outlets, a small-scale manufacturing plant, a warehouses and a chain of supermarkets dealing mainly with whole-food, organic and fairly-traded products. Concurrently, Jon has lectured, published, consulted and provided training courses in both private and public sectors.

Central to this work has been the applications of systems theory and cybernetics to co-operative organisations in order to design highly effective structures based firmly on principles of democracy, self-empowerment and human dignity. Emerging from this work is the clear conclusion that the most effective, responsive structures must be based on self-organisation and non-hierarchical approaches. Cybernetics provides the basis for the design of organisations in which effective business performance and individual well-being are mutually supportive.

Jon has a PhD in Cybernetics from Aston University and has published papers on neural networks, robotics, the use of the Viable Systems Model in co-operative organisations, and recently the application of systems tools to sustainable design. He established a web site introducing the Viable Systems Model and applying its principles to non-hierarchical design, which has been in constant use for over 10 years.

### **Previous Work and Current Projects**

- Redesign of the UK's largest worker co-operative.
- Design and implementation of performance-indicator based learning and motivation systems.
- Development of information systems for co-operatives, emphasising the enhancement of individual performance and self-learning.
- Implementation of designs based around principles of maximised local autonomy.
- Diagnosis of large enterprises using recursive systems theory.
- Design of mutually supportive networks of small businesses which focus on generating synergy between the stake-holders while enhancing local autonomy and identity.
- Currently working with organisational structures for the development of an eco-community in Ireland, the Transition Town Network, The Robert Owen Community Banking Partnership in mid-Wales and Global systems to deal with Climate Change.

# **"The Viable System Model, Learners and self-efficacy"**

**Mark Johnson**

We report on the SPLICE (Social Practices Learning and Interoperability in Connected Environments) project funded by the Joint Information Systems Committee in the UK. The project focuses on the behaviour of learners in online communities.

Through using a combination of methodological retrodution (after Pawson and Tilley) and VSM modelling we have identified possible mechanisms that might explain different types of individual online social engagement. In doing this, we have specifically applied the VSM to model the variety management within learners. Our aim has been both to establish effective models and to empower individual learners within an overarching action-research project.

The findings of this work indicate that actions taken in the light of a VSM mechanism of 'personal viability' have outcomes which can be further explained by the model. In the case of the SPLICE project, actions with learners were specifically designed to enhance self-efficacy through the establishment of more effective 'habits' of communication. In many cases, reports from teachers and learners suggest that greater learner autonomy was produced. However, in addition to these positive outcomes, we argue that the combination of VSM modelling and retroductive methodology can lead to a deeper understanding of the role of technology in developing self-efficacy and the social capital of learners.

## **Cybernetics, Safety and Management**

*The development of a safety management system which is an aspect system of the governance system of an airline organisation.*

**Arthur Dijkstra Msc**

**KLM Royal Dutch Airlines / Delft University of Technology Netherlands**

### **Abstract**

Safety an integral part of the airline business. Travelling near the speed of sound with hundreds of people over isolated areas of the world or in dense traffic patterns over a major city requires serious attention to all aspects that make this a safe process. Aviation is a relative safe system, however the expected growth of the traffic volume and the increasing complexity of the system may need new approaches to manage safety. Furthermore, recent analysis of worldwide accident data seems to indicate emergence of new kinds of accidents with modern aircraft. These accidents have not been preceded by similar accidents and appear to take the aviation safety community by surprise.

The systems approach is gaining territory in the safety domain what can be illustrated by the development of models to explain accidents from a systems perspective. These models get great interest since the limitations of the previous generation mainly reductionist, accident models are showing their limitations. The notion that accidents can be described as loss of control in a system makes cybernetics an effective perspective in dealing with the complexity of aviation safety.

Current approaches to safety management, subjected to legislation, are primarily reactive because most corrective actions are based on accident or incident analysis. The more proactive risk management as feed forward is still in its initial stages. The impact of organisational changes on the operational flight activities is a challenge which needs more than operational safety knowledge. Operational flight safety is largely determined by the conditions under which the flight crew must work. The whole airline organisation has an important influence on these conditions. Safety is only one of the critical success factors of an airline but it has not yet been managed as an explicit essential variable. Current practices in safety management reporting use number of accident and incidents as indicators but these indicators lack requisite variety to a large extent.

In my PhD research project I will develop a proposal for an airline safety management system (SMS) which can be part of the governance system. Operational safety needs to be translated to meaningful variables for each respective level of recursion in the organisation. The Viable System Model and its foundation of cybernetics laws and principles will be used to describe an airlines control structure for managing the essential variable of safety. Even an individual flight can be analysed along the VSM principles and the VSM as model to explain accident development has not been done in aviation.

Cybernetics and the VSM in particular could create a new common language from pilot to CEO in which safety can be discussed and managed, as an integral part and in relation to other business values, under the increasing pressure of complexity and economy.

---

**Arthur Dijkstra**  
**Brief c.v.**

is currently captain in KLM Royal Dutch Airlines on the Boeing 777 and a flight safety investigator. After the Dutch Civil Aviation flying school he started in 1985 as First Officer on the McDonnell Douglas DC 9, followed by Boeing B747-300 and B747-400. He flew as captain on Airbus A310, followed by the Boeing B767 and Boeing B777. He was 12 years (Senior) Type Rating examiner which includes pilot and instructor training and examination. In June 2005 Arthur Dijkstra completed a MSc study in Human Factors at Linköping University , Sweden . In 2005 he started a PhD study in the field of safety, management and cybernetics, at the section of Safety Science at the University of Technology in Delft in the Netherlands sponsored by the KLM.

## **Systemic and cybernetic planning and management with the “Sensitivity Model**

**Prof. Vester®**

**Gabriele Harrer**

This session will introduce the Sensitivity Model developed by Professor Vester and its computerized 'System Tools' on complex problems of economical and political planning and management. The session will be a briefing of a one day workshop that will take place in Hull Business School on July 2nd 2008 with some of the participants to the Metaphorum Conference that will be staying an extra day. The session will focus on an introduction in Frederic Vester's system oriented approach to tackle with complexity. The workshop on July the 2<sup>nd</sup> will focus on practical examples.

---

**Gabriele Harrer,  
Brief cvs**

1957, Dipl. Geologist

Since 2006 Project Manager, Management Cybernetics & Bionics, Malik Management Center St. Gallen Malik MZSG.

2006 – 2008 Lecturer at the Faculty for ‘Interdependence of Technological and Social Change’, German Military Forces University, Munich.

From 1985 to 2005 project manager and scientific assistant of Prof. Frederic Vester, frederic vester Ltd., Munich. Close collaboration with Frederic Vester in workshops, trainings and systemstudies and in the development of his cybernetic computerized management tools “Sensitivity Model Prof. Vester®” and “Ecopolicy®”.

## **Organizational Issues for Digital Preservation – work in progress**

Mari Runardotter, PhLic  
Doctoral student in Social Informatics  
Dept. of Business Administration and Social Sciences  
Luleå University of Technology, Sweden  
mari.runardotter@ltu.se

Long-term digital preservation is a challenge that depends, and is dependent on, technological development. We have to deal with it because a growing amount of societal information and cultural heritage exist in digital form. A lot of effort is put in trying to secure this information (that exists on a technology) with technology<sup>2</sup>. It seems that many contemporary organizations still believe that technology alone is the answer for development. When it comes to long-term digital preservation it is clear that technology plays a significant role. But we need to be alert – in order to ascertain the longevity of the cultural heritage we have to involve other things such as organizational considerations on how to manage long-term digital preservation, i.e. we have to pose questions such as whom (and what competencies), when, and what processes, functions and activities are involved? In other words, how should an organization organize itself in order to secure long-term digital preservation?

The Viable System Model (VSM) is an interesting model that deals with several of the phenomena to be explored as part of the long term digital preservation project (i.e. “organizing the organization”, future competencies, activities and functions that humans will have to perform, in order to secure long-term digital preservation (LDP)). VSM deals with change, and adaptation, something that should be familiar for organizations implementing different kinds of technology in their every day business.

In short, information technology and organizational development are mutually affecting and changing each other. Therefore it is important to consider the effects on the entire organization when implementing (or redesigning) technology. Even though designing organizations according to certain structures and processes, social practices are bound to happen within these structures. Hence, changes will take place in both structures and processes over time. People are creative, and find their own ways of using technology, thereby changing original intentions and also technological and organizational design. This implies that when designing e.g. agent technology for archival information systems, these phenomena must also be considered, even if it is rather impossible to predict in what ways the users will redesign a system. Nevertheless, maybe this is of even more significance when it comes to long-term digital preservation – the preserved information

---

<sup>2</sup> Among them are the EU projects CASPAR, and PLANETS, but also other types of projects or initiatives such as SHAMAN, Digital Curation Centre (DCC), Digital Preservation Europe (DPE) wePreserve, and DLM-forum, along with cultural heritage institutions, government agencies, and private enterprises

must be accessible years ahead. This could mean that this kind of changes can be either devastating or make astonishing improvements, and must therefore be genuinely analysed.

It is many times organizational, not technological, problems that arise when technologies are implemented. This implies that we must organize the work with long-term digital preservation (and agent technology) in a sustainable (and viable) way. For this we need an appropriate structure for how to get things done. VSM is a generic model, possible for every organization to use either as diagnostic device or as foundation for how to organize.

It must be remembered that even if VSM is used, and a way of organizing is established in which technology and humans are assigned certain actions, functions and processes – it is humans that act unstructured, irrational and illogical, not technology.

How an organization is organized can either support or become an obstacle for how to get the work done. I am convinced that people need a structure of organizing to which they can relate. My aim is to find out whether VSM can be used as the organizing framework and structure for digital curation organizations, as well as any organization that must ascertain that long-term digital preservation is accomplished.

---

**Mari Runardotter**  
**Brief cvs**

My research focuses on social and organizational effects of IT. This involves IT design and use, and changes in peoples' action space and work roles, in addition to IT's effect on organisation's structures, processes and management. The theories and methods I use emphasize social, cultural, organizational and societal aspects in the interaction between humans and information systems. In my Licentiate Thesis I examined, analyzed and described archivists' current situation, and now, when writing my Doctoral Thesis, I concentrate on matters concerning organizing for long-term digital preservation.  
Mari Runardotter, PhD Student in Social Informatics, Luleå University of Technology, Sweden.

## **A 'Soft' approach to 'environmental conflict resolution' and other community action research situations: a methodology for many cultural situations?**

**Dennis Finlayson**

The approach attempts to remain in the minimalist mode recommended by the author in presentations to the ISSS Conference in California in 2004 and builds on an earlier paper (Finlayson DE ISSS Toronto 2000) and while it draws on some new ideas it relies primarily on techniques developed by well known practitioners in the field of 'soft methods' and particularly the work of John Friend and his coauthors. Friends JK, PUP, 3<sup>rd</sup> edition 2005).

In particular it begins with participants in two's or three's utilizing the 'Mutual Consulting Approach' recommended by Heron and Finlayson in the "Learning from Others" chapter of PUP III above. In that case the participants were small scale entrepreneurs operating in the food sector in Lincolnshire which is a rural county in the East of England. These clients for the so called FAST\* programme were also introduced to ideas drawn from the SSM, VSM and Critical Systems traditions which in the Lincoln context are associated with Costas Tsouvalis, Raul Espejo, Gerard de Zeuw and others.

This exercise follows on immediately from an icebreaker such as the 'nominal group technique' that also serves to give the workshop its own common vocabulary. Each participant brings their own 'problem' or angle to the workshop and then learns from others how they see things when the results of the MCE are shared. (An alternative ice breaker might be 'Organisational Diagramming' as first described at the ISSS Conference in Asilomar in 1999 and later applied to facilitate the initiation of discussion between two communities in conflict over a shared water supply in the illegally settled southern barrios of Bogota.)

The next stage is to engage the stakeholders. Where they are geographically closely related this can take the form of a traditional workshop though with the facilitator adopting an enabler or low intervention role rather than a more proactive role favoured by some practitioners such as Alan Hickling, for example (see Friend and Hickling above). Where the stakeholders are not easily brought together a so called 'cascade' approach is substituted for the workshop, following Finlayson, 2000.

The 'cascaders', whether they be in two's or three's or even larger numbers\*\* (Miller in his Doctoral research at Lincoln had a first stage in his cascade consisting of representative of 9 different faith groups in the U.K.), can utilize the mutual consulting set of questions possibly amended or augmented for the particular context. These questions are: What is your situation? Who is involved? What other issues are related? What are the options for a solution? What are the pro's and con's of the different options? What are the uncertainties related to these? What steps might be taken to address these? (I also add 'any other things that you feel are relevant?' reflecting my social survey field background!?)

The final stage is for the 'group' of stakeholders to develop a 'commitment or progress package' as originally developed in early versions of PUP as well as in the latest

edition. The group members or stakeholders commit themselves sometimes individually to certain actions to be undertaken immediately, or research or investigations in a similar time period, or future actions or research and so on. Again I usually elaborate this further by adding immediate and more distant futures e.g. within next 2 years or next 5 years and so on as well as suggesting that the 'group' might attempt to explicitly identify topics that they have not been able to cover in their deliberations. This might be especially important in 'serious conflict' situations where some stakeholders might feel that their 'more extreme' positions have not been fully considered by others!

In some circumstances, such as issues of access, a Participatory Rural Appraisal (Chambers, R.) approach might be another candidate for the 'engaging stakeholders' or a workshop stage and the combination of SCA and PRA has indeed been explored by Tackett and White with some apparent success. In my own elaboration I recommend participants to present their own 'rich pictures' of the situation. However, whereas in SSM (see Checkland) these are part of the early, creative stage of the methodology, I recommend that they be presented to the stakeholders at the final stage along with the commitment package, results of cascading and so on to 'spice up' the reporting back to the stakeholders especially if they are members of a rural community, for example.

#### Sustainability Indicators

There is in addition the question of monitoring and evaluation as to the success or otherwise of a strategy. Consequently it is suggested that a range of indicators should be identified relating to the 'substance' of the conflict, the process by which its resolution might be approached or stakeholders 'engaged' as well as the steps decided upon to address the situation and/or conduct further 'research' into the issues raised by the different stakeholders. Particularly important in such situations is the presentation of indicators and other results as the stakeholders, and particularly perhaps members of local communities, cannot be assumed to have high levels of literacy or numeracy!

#### Cultural Contexts

Although I feel that the above approach should be potentially suitable for different cultures in Latin America, South East Asia and Africa (South of the Sahara) that I have worked with throughout my career, there could be some differences of emphasis to take account of the different cultural contexts. In Colombia, for example, it is usually the case that participants are very willing to participate from the outset, however if there is serious conflict between communities the 'ice breaking stage' of an enabling process may need to be very carefully designed.

In Africa issues of gender and hierarchy/age within groups may require special attention. In a SADCC Soil and Water Conservation workshop a senior government official was 'co-opted' into the facilitation team to prevent him dominating group discussions. On other occasions in Europe and elsewhere, some quiet or excessively vocal members of groups have been moved on to neighbouring groups to report on their original groups earlier discussions. This tactic can also be used to re-invigorate discussions when they seem to be flagging and this also leads to a wider sharing of ideas before the final plenary stage of reporting back in a wider conference format, for example.

While in an Asian context, deference to authority and an unwillingness to do other than agree with what participants think is required of them could present challenges to the facilitators. Where tactics such as those mentioned are adopted to overcome these obstacles their use should be explained at least after the event, if not before!

In an East Asian context recently a participant suggested that participatory methods are not relevant to military situations and similar 'conflict contexts' when lives may be risked by delay. While recognizing that such situations do probably require that an authority figure would ultimately have to 'take a decision' that others would then accept and act upon, it was argued that normally some degree of 'consultation' with other senior or well informed colleagues would be appropriate and prior training in the use of participatory methods might result in these being carried out in a more open manner and as such the resulting action would command greater respect!

---

DENNIS EDWARD FINLAYSON

FLAT 6, 51 STEEP TURNPIKE  
MATLOCK, DE4 3DP, UK.

TEL: 44(0) 1629 57067  
dfinlayson@btopenworld.com

Age 62 Divorced

Two Children aged 34 & 33 years.

Originally trained as a Scientist, B.Sc. University of Sheffield 1966.

Then as a Community Education Worker, Certificate by experience and inservice training Warwickshire C.C. 1968.

Then as a planner. Postgraduate Diploma in Economics, Development and Econometrics, University of Southampton 1969.

Up until 1997 I worked in development in numerous countries for a variety of aid agencies as well as in several regions of the U.K. in a variety of roles usually, but not always, involving the education sector.

Current activities include lecturing to undergraduates at the University of Lincoln.

2007 Involved in various community development and related projects in Lincolnshire as well as other parts of U.K. and overseas.

2000 Short Course Coordinator, Lincoln University, Centre for Applied Development Studies

These courses were primarily for students from overseas including some with education backgrounds. The accommodation and some teaching and research activities were shared with colleagues from the IIEL above.

1996 Short Course Coordinator, University of Sheffield, Centre for Development Planning

- Similar courses to above but located in a Planning Dept. C Occasionally a senior student came from the education field including a series from Zimbabwe recommended by the British Council who were familiar with my wider overseas work referred to below.
- 1989 IBRD/ODA Consultant in South Pacific and Uganda  
The Vanuatu assignment was originally just for the education sector but then like the one in Uganda it was broadened to cover all sectors. I was primarily looking at manpower issues such as localisation.
- 1988 ODA Planning Consultant in Lesotho  
Training and planning adviser for all ministries including education for this small country which has the largest Irish Aid programme.
- 1985 IBRD Consultant in Indonesia  
Training project in the manufacturing sector.
- 1984 R&D Consultant on Young Adult Unemployment in Scotland  
Funded by a national NGO along with REA and a local trust. Involved developing initiatives for long term unemployed young adults (18-25). Included ABE and other networking activities.
- 1982 Commonwealth Consultant in West Indies and Zimbabwe  
Leading team of ten consultants one of whom was an education specialist from Oxford.
- 1981 Australian Aid Consultant in Malacca, Malaysia  
Responsibilities did NOT include education.
- 1980 Research Fellow in CURDS, University of Newcastle. This was a transport project.
- 1979 Training Adviser/lecturer in INTAN, the Malaysian Civil Service College providing management training.
- 1977 Senior Research Officer, Cleveland County Council. UK  
Covering all sectors of local government including education.
- 1974 Research Assistant, PPC, University of Bradford, UK  
This included a 3 month programme on project planning for the education sector among others.
- 1972 Assistant to Chief Economist, National Planning Dept. Colombia  
No education responsibilities involved.
- 1971 Research Assistant, Dept. of Social Admin. University of Southampton. A housing and migration project.

## **Allenna Leonard**

Allenna Leonard is an independent consultant, facilitator and sometime adjunct professor based in Toronto. Her practice has been focused on the work of Stafford Beer and his Viable System Model and Team Syntegrity process. She has recently been working on projects to improve audit and other accountability practices. Her work applying this to governance is an extension of that. She finishes a term as president of the American Society for Cybernetics this year.

Allenna Leonard, Ph.D.

Principal, The Complementary Set

34 Palmerson Square

Toronto, ON M6G 2S7

Canada

[allenna\\_leonard@yahoo.com](mailto:allenna_leonard@yahoo.com)

## **ROGER JOHN HARNDEN BA, PHD**

### **Contact Address.**

117 High Street,  
Blaenau Ffestiniog,  
Gwynedd  
LL41 3AX  
UK

### **E'mail.**

[roger@rogerharnden.com](mailto:roger@rogerharnden.com)

Roger's doctorate, Enabling Network Systems, considered the way in which the insights of second order cybernetics might ensure that information technology enables individual initiative, identity and inclusion, rather than laying down an umbrella of organisational hegemony. Since then he has been an executive director in several companies whose products focus upon more intuitive user experience through a personalised user interface for both web and mobile devices.

The focus of both his business activities and his writings is how the creative anarchy of individual endeavour can exist within the necessary context of semantic and experiential horizons laid down by social forms and culture.