December 1998 vol. 17, no 3/4 (No. 50/51) 2600 copies

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ftp-server: ftp.sea.uni-linz.ac.at/public/ifsrNL

J. Chroust 98

A Merry Christmas and a Happy New Year!

Dear Readers!
It seems to me that the second half of 1998 just ran away. I organized three conferences and edited two of their proceedings. And this meant that the planned October issue of the Newsletter never materialized. So take my excuses for the long interval from the June issue. I decided to merge the remaining two Newsletters – you will see there is enough material for a double issue.
Once things go wrong, they go terribly wrong.
I just learnt, that the printing of the USA-version of our Newsletter was not accomplished in time by our USA printer. The Newsletters only went to press in September. So those of you, which receive the American version of the Newsletter, please take our apologies for this mishap which was outside our immediate control!
As a New Year's promise I will try to deliver the 4 issues of the Newsletter more or less on time.

The IFSR gave a strong sign of activity in this year's Fuschl conversation and we have – for the first time – Proceedings with a proper ISBN-number, published within a decent time frame after the conference. We also published the Proceedings of the Fuschl 1996 proceedings. Both can be acquired from the ÖSGK, Robert Trappl's office, hope that you will enjoy them!
I should also report that we have made a slight change in the format of the Newsletter. We decided to print our US-version on a US-format paper. Therefore therefor the European version has now slightly larger margins at the top and the bottom.
Let me close by wishing all of you a peaceful holiday season and a Happy New Year.
Sincerely

Gerhard Chroust

A VISION FOR THE IFSR

GLOBAL CRISIS IN THE 21ST CENTURY

Yong Pil Rhee
Vice President of the IFSR
Seoul National University San 56-1, Korea
rheeyp@plaza.snu.ac.kr

Yong Pil Rhee photo: M-Beneder

We are living in a rapidly changing world. We find ourselves in a state of profound, world-wide crisis, it is a complex, multidimensional crisis whose facts touch every aspect of our life. It is a crisis of intellectual, moral, and spiritual dimensions. It is a striking sign of our time that people who are supposed to be experts in various fields can no longer deal with the urgent problems that have arisen in their areas of expertise. The current crisis, therefore, is not just a crisis of individuals, governments, or social institutions, it is a transition of planetary dimensions.

The primary role of IFSR is not only to provide a forum for communications among the members from various disciplines, but to also facilitate a continuing project on global crisis. I feel that it is necessary to establish the *"Research Committee"* within IFSR in order to cope with the Global Crisis in the 21st Century. It is also very urgent to adopt and declare "the Manifesto of Systems Thinking for Solving the Global Crisis in the 21st Century". I think that all of members of IFSR will take part in this meaningful project.

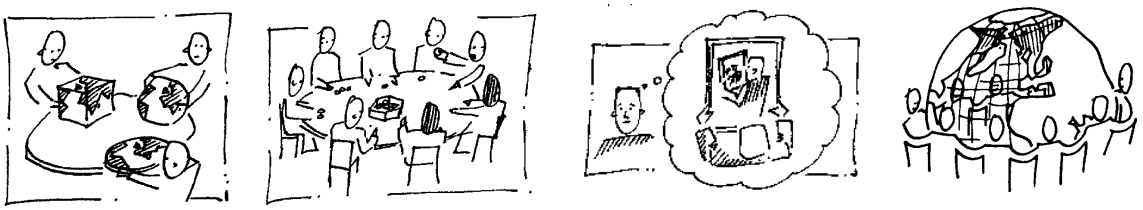
NEW TRENDS

EMBODYING SITUATIONS & ISSUES

SHARING CONTEXTS, AND ENCOURAGING DIALOGUE
Asilomar 1997 and Ljubljana 1998 Dialogues

Heiner Benking
email: benking@faw.uni-ulm.de

How can people go beyond the "Battle of Perspectives", to see where other persons are, physically and conceptually, to find a way to reach them, co-create and encourage voice in self-organizing dialogue?



Many models many views | Invite, share, listen, co-create | See who sees and reflect upon it | Global seeing & feeling

Illustrations: Tim Casswell, Bristol

New Places for Spaces

Mothers in all cultures have told their children to make words solid and to use verbs to bring them to Life. The reason? We need to share meaning in order to gain understanding and to cope better. This is done by sharing, translating, and transforming meaning, by using stories, metaphors, and analogies and so allow others to follow from the real to the abstract. And that is what this trend-letter is about, the ways to bridge the real with all these new artificial "tele" and "virtual" worlds so that we can not only live in and with them, but return to the virtue of listening and imagining more clearly what others see and feel.

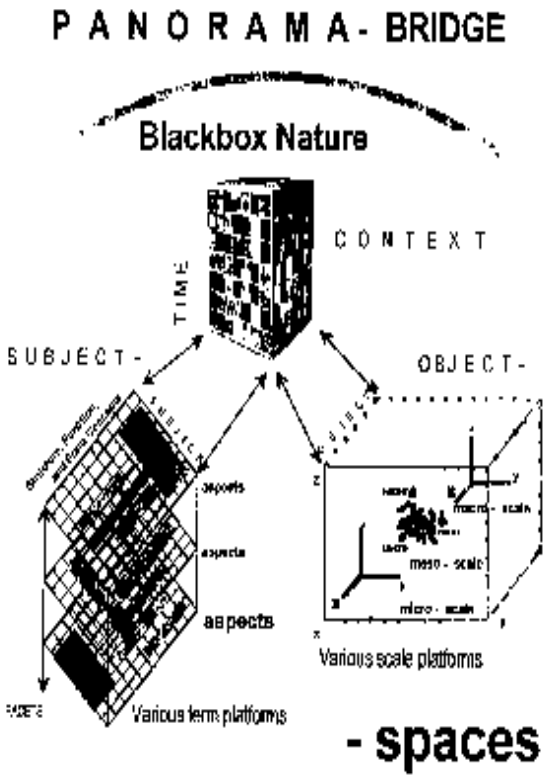
Fact is, that we not only share one sky (as some Indian tribes say) but that we have an increasing number of skies above us and we are not sure who is seeing which clouds. The confusion of having lost ground and bearing has led to a number of very dangerous metaphors like: THE END OF GEOGRAPHY, THE END OF DISTANCE, THE SECOND FLOOD or THIRD BOMB. But the opposite is true, it is not the end of anything we already know, but a new open sky we just may not have come to grips with yet. Instead of believing that after CULTURE there will be CYBERCULTURE, we have to make sure that the new is inclusive and additional, and is connected to our living world.

It is typical that these trends of separation of the new individual and collective virtual worlds from the real world started with fiction. The science-fiction writer William Gibson "created" an extensive "electronic space", one without boundaries on context or content, ... an open ended universality, a chaos / Babylon. This is in line with the contextless subjectivism, meaningless and endless "lost in space" syndrome of post-structuralism. It is a nightmare for understanding and coping, for us, but more so, for our children. When thinkers like Pierre Lévy "postulate" that such a „Modern or Second Flood" Culture is unavoidable and irreversible, then we are really in a bad film. We should not only change seats, but the script.

The Leverage Space

The necessary change in perception and attitude could happen by building a 'new' culture on the old one, because the new mediums do not substitute the old needs of living, sharing, and creating. But the result would still be a new 'composite' culture. This happens when we hark back to the original meaning of the word "kybernetes": a *steering space* - or, in a positive sense, an order or control space in the sense of Norbert Wiener. He had systems in mind and problem solving; something which helps us, gives direction and makes us not afraid or shocks us into isolation... and cocooning.

The trick – see above – would be to take 'space' for real, and like Poincaré, create with abstract or imaginary axes/dimensions new sharable action, communication, and orientation realms. These spaces need to be considered “real” and “synthetic”, extensive spaces which can be embodied, made solid, augmented, and blended. They are immersive and collectively explorable environments (analog to the “new” CVE’s –collective virtual environments- which are connected to the real world in order to allow orientation and a flow of meaning. The design we are talking about here was done in 1990, using a combination of spaces which help us blend and collectively enter into abstract subjects; just the same way as we are used to in physical object space, thereby bridging presentations, representation, and annotation.



Blackbox Nature and the Cognitive Panorama

More has been written elsewhere about transcending boxes of thinking, the fidelity and merging and morphing of models and metaphors, or “jumping” over the fences of the "res extensa".

Given the above as a *'second step*', something has to come first**:**

- encourage attention, co-creation, and exchange,
- promote participatory ways to share meaning via the art of conversation and dialogue: the Art of the Arts.

Shared Conversations and embodied flows of Meaning and Assumptions

At the 1997 autumn ISI-Asilomar Conversations meeting, we posed the question of how to built community and care about the fundamental building blocks -- by using good sound exchange and understanding. This and the recent 'David Bohm Dialogues' in Ljubljana were based on the work of Anthony J. N. Judge, Brussels, and Heiner Benking. It is a form of "Giving Voice" -- cultivating listening and empowerment by giving freely floating time credits. A „step towards civilized dialogue" as it was called. It is applied in new forms of conferences and roundtables, inter-faith dialogues and peace-making efforts.

Such a self-organizing form of dialogue, which is transparently visible, evolves and makes obvious who and how people manage or steal time (from others) for vested interests and hidden agendas, or only for ego-cultivation - without eyes and ears for others. – the typical "talkers" as David Bohm called them. All these “stiles” and “strategies” become more obvious at real or shadowy round-tables.

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http://www.uia.org/guests/benking/

MY OBJECTIVES:

- use „cyber“space as one out of many positive order and control / orientation spaces (situation rooms) by seeing space as a prerequisite for order, frames, systems, boundaries,.. and a chance to avoid the negative sides of chaos, subjectivism and individualization
- „harmonize“ (applies to the incomparable) - make bridges between the incompatible (see standardization) - abstract worlds and real words
- show ways to embody, immerse and share meaning
- define and agree upon image schemata and define a "conceptual topography"
- build on the above and the cultivation of dialogue, empowering and caring to listen and co-create without control - auto-poetically - in DIALOGUE

MY RECOMEMNDATIONS FOR:

Dialogue:

http://ceptualinstitute.com/genre/benking/dialogueculture/
http://www.ceptualinstitute.com/genre/benking/asilomar.htm
http://www.uia.org/uiadocs/aadocdia.htm
http://ciiiweb.ijs.si/dialogues/page1.htm
http://ceptualinstitute.com/genre/benking/borderland.htm
http:// bfranklin.edu/hubs/global/benking.htm

Conceptual Superstructure - Cognitive Panorama

http://ceptualinstitute.com/uiu_plus/isss98/house-of-eyes/
http:// ceptualinstitute.com/genre/benking/overview.htm
http://ceptualinstitute.com/genre/benking/aizu/aizu98.htm
http://uia.org/uiadocs/spatialm.htm
http://ciiiweb.ijs.si/dialogues/r-benking.htm
http://ceptualinstitute.com/genre/benking/visual/
http://ceptualinstitute.com/genre/benking/edu/education.htm

NEW THOUGHTS

SENESCENCE IN BIOLOGICAL SYSTEMS

WHY CAN’T WE LIVE FOREVER?

Dr. Stephen Sokoloff
Stefan-Fechter-Weg 1/49
A-4020 Linz, Austria

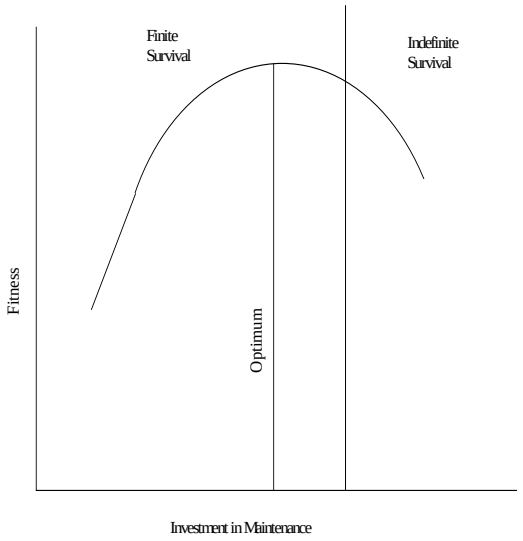
Most of us accept the inevitability of aging. We experience the fact that mechanical devices wear out and break down in the course of time, and we see that people and animals grow old and die. It therefore seems self-evident to us that the lifetime of organisms, like that of material objects, is limited.

Biological systems, however, are endowed with the ability to repair themselves. They must be able to do so, because flaws rapidly accumulate in many of their components. After all, some mistakes are made during the assembly of genes and proteins, and these macromolecules are subsequently damaged by ultraviolet

radiation, oxidation, etc. It has been shown that organisms could not survive as long as they do if they were not able to eliminate some of these defects.
As a matter of fact, biological material is potentially immortal. Amoebas and most other one celled organisms simply go on growing and multiplying forever. So do human cells that have undergone cancer-like transformations. They maintain their vitality when they are held in laboratory cultures, whereas normal cells slow down and eventually die after a certain number of divisions. A rejuvenation occurs in fertilized egg cells, but their sibling cells – the parent organisms – continue their slide into senescence.

Optimal utilization of repair potentiality

Gerontologists generally believe that considerable resources must be "allocated" to keep biological systems intact – repair enzymes, antioxidants, efficient mechanisms for the elimination of accumulated waste materials. Under natural conditions, however, life is generally short and brutish, and very few individuals ever reach an advanced age. It is, for example, realistic to assume that in a certain hypothetical species 99 % die within three years of birth as a result of predation and disease. There is no reason why organisms such as these should be designed for permanence.
The goal of evolution seems to be an optimal utilization of resources. Just enough mending is done to enable an animal to attain its normal lifespan. Damage-preventing mechanisms and fixing-up processes are far more efficient in long-lived species than in short-lived ones. For example the amount of repair synthesis of the hereditary material DNA is correlated with the longevity of its donors. Compared with rats it is three times greater in dogs and six times greater in horses. Studies on substances such as SOD that afford protection against oxygen free radical damage yield similar results. The SOD level correlates with the lifespan in many species.
In view of the astounding complexity of biological systems it is unlikely that scientists will discover the fountain of youth in the near future. However once the processes that lead to senescence have been thoroughly elucidated we will be able to devise strategies to inhibit them. Recommended regimes might involve dietary measures, vitamin and mineral supplements, etc. Eventually physicians will probably even be able to give us injections of life-prolonging genes.
I am sure that man will in the course of time attain a certain degree of control over basic ageing mechanisms. He will then be able to considerably prolong human life. That prospect is certainly enticing, but slowing down senescence will undoubtedly give rise to a great number of social, moral and political problems.



The resources necessary for precluding senescence will always reduce fitness beneath the optimum value. [Holliday]

Holliday, Robin: Understanding Ageing, Cambridge University Press, 1995, 207 pp.

H. Benkings Favourite Poetry:

Whoever imagines mental barriers
which actually do not exist
and then thinks them away, has understood the world.

As space is entrapped in geometry's network of lines,
thought is caught in its (own) inherent laws.

Maps make the world comprehensible to us;
we are still waiting for the star-maps of the spirit.
In the same way that ambling through fields
we risk getting lost, the spirit negotiates its terrain.

Friedrich Rückert, Wisdom of Brahmins

NEED FOR SYSTEMIC THINKING IN THE INFORMATION SOCIETY

Matjaz MULEJ
Univerza v Mariboru
PO Box 180 (EPF)
SL-2000 MARIBOR, Slovenia
MULEJ@uni-mb.si

During IDIMT'98 conference in Zadov, Matjaz Muley offered the following definition of an Information Society:

An information Society is

- Based on continuous innovating along with lots of Traditionalism
- Based on immense quantities on knowledge along with lots of illiteracy
- Based on network of networks along with lots of door locks
- Based on democracy (political, economic, at home) along with many dictators and jails
- Based on entrepreneurship and progress along with growing joblessness
- Based on worldwide peace along with lots of atomic etc. weapons
- Based on political and natural stability along with abuse of power and nature
- Based on very quick development along with leaving 80 % of mankind aside
- Based on supply .. demand along with very bad life of + 50 % of mankind

Conclusion:
We are either systemic or dead!

News from the IFSR

News from the IFSR

FROM OUR MEMBER SOCIETIES

WELCOME TO THE IFSR!

SYSTEMS ENGINEERING SOCIETY OF CHINA

The Systems Engineering Society of China is an academic organisation of professional active in the systems engineering field. The Society holds membership in the China Association for Science and technology. Members of the Systems Engineering Society of China are organised to promote activities and develop theories in the field of systems engineering.
The Systems Engineering Society of China was founded in 1980.

Activities:
Many activities have been organised by the Systems Engineering Society of China including annual meetings, professional seminars, international symposia, foreign exchanges and several large-scale investigations.

Membership:
There are 3000 individual members and 160 collective memberships in the Society.

Publications:
The Systems Engineering Society of China is responsible for publishing the Journals:

- Journal of Systems Engineering
- System Engineering Theories and Practices

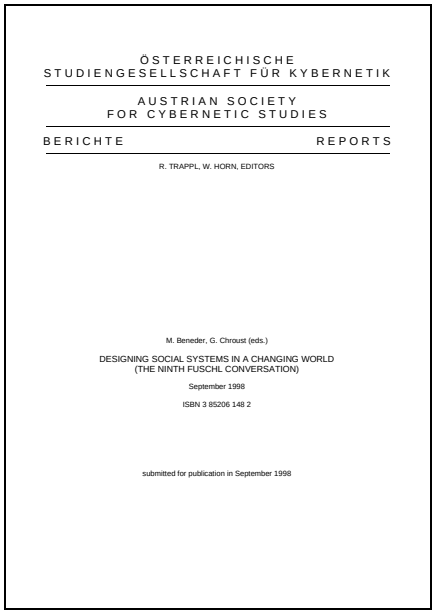
- Journal of Systems Science and System Engineering
- Journal of Fuzzy and Mathematics
- Systems Sciences and Comprehensive Studies in Agricultural

For further information, please contact:
President: Gu Jifa
Systems Engineering Society of China
Institute of systems Science
Zhongguancun, Beijing, 100080, China
Telephone: 62541827(0), 62562092(H)
Fax: 86-010-62568364
e-mail: jfgu@iss02.iss.ac.cn

AMERICAN SOCIETY FOR CYBERNETICS

Its home-page is:
www.gwu.edu/~asc

FUSCHL CONVERSATION 1998


ÖSTERREICHISCHE
STUDIENGESELLSCHAFT FÜR KYBERNETIK

AUSTRIAN SOCIETY
FOR CYBERNETIC STUDIES

BERICHTE REPORTS

R. TRAPPL, W. HORN, EDITORS

M. Beneder, G. Chroust (eds.)

DESIGNING SOCIAL SYSTEMS IN A CHANGING WORLD
(THE NINTH FUSCHL CONVERSATION)

September 1998

ISBN 3 85206 148 2

submitted for publication in September 1998

FUSCHL 1996 AND 1998

The proceedings of Fuschl 1996 and 1998 are available as two separate volumes! Both proceedings give a good account of what was discussed at these two conversations.

B.H. Banathy, G. Chroust (eds.):
The Eight Fuschl Conversation (Fuschl Am See, April 14-19,1996)
Reports of the Austrian Society for Cybernetic Studies, Vienna, September 1998,
ISBN 3 85206 145 8

M. Beneder, G. Chroust (eds.):
Designing Social Systems in a Changing World (The Ninth Fuschl Conversation)
Reports of the Austrian Society for Cybernetic Studies, Vienna, September 1998,
ISBN 3 85206 148 2

Copies can be ordered from
Austrian Society for Cybernetic Studies,
Schotteng. 3
A-1010 Wien, Austria
+43-1-53532810, fax: +43-1-630652
email: sec@ai.univie.ac.at

PHOTOS FROM FUSCHL 1998

Numerous photos from the Fuschl Conversation 1998 can be found in
http://www.sea.uni-linz.ac.at

Preparing a Report for Fuschl photo: G. Chroust

CONFERENCE ANNOUNCEMENTS

For contacts and further information see Calendar of Events

SYNERGY MATTERS:

WORKING WITH SYSTEMS IN THE 21ST CENTURY

6th International Conference
of the United Kingdom Systems Society
5th to 9th July 1999

The conference will be held at the Lincoln campus of the University of Lincolnshire & Humberside.

The challenges of the 21st Century will be complex and require the ability to identify and develop relationships between and within disciplines. Emergent issues are likely to include: increasing globalisation of management issues; participation in systems design and the sustainability of those systems strategies for dealing with the proliferation of information and it's impact on all aspects of social organisation: the development of virtual communities; increased collaboration between the business sector and the voluntary sector.

This Conference aims to provide a forum for academics and practitioners to explore the challenges of the new millennium and the potential for synergistic working in response to these challenges.

HUMANITY, SCIENCE, TECHNOLOGY:

THE SYSTEMIC FOUNDATIONS OF THE INFORMATION AGE

43rd Meeting of the ISSS

June 27-July 2, 1999

Asilomar Conference Center, USA

During the past few centuries we have achieved a remarkable synthesis of science and technology. We have been less successful in establishing a graceful or even workable relationship between nature, humanity, science, and technology. It is becoming increasingly important for us to ask the fundamental questions that will lead to an understanding of these relationships.

Unique to our age is the massive scale at which we are applying science and technology to the construction of our physical, social, and cultural reality. However, our approach to the construction of these realities is fragmented. A distinguishing feature of the next millennium must be a more systemic view of science and technology. A view that gives full expression to the creative energy of the human spirit upon which the information age can be built.

A disciplined approach to engaging our creative energy calls for a level of understanding that crosses the boundaries between the humanities, the arts, the sciences, and technologies. It certainly calls for a re-examination of science, of different ways of knowing, and different ways of being.

The above discussion echoes the sentiments of the founders of ISSS. Some 44 years ago a group of systems thinkers asked: How can science be unified? How can science be applied to the improvement of the human condition?

The meeting provides a unique opportunity for us to take up that challenge, to begin to frame the development of systemic foundations for the information age.

Tentative suggestions for presentation topics include:

Bases for the Unification of Science

- Improvement of the Human Condition
- Humanistic Inquiry
- Critical Systems Theory
- Living Systems Theory
- Foundations of Information Science
- Complexity Theory
- Art as a Method of Inquiry

Bases for Improvement of Human Condition

- Unification of Science
- Global Ethical Management
- Education and Human Development
- Designing Healthy Authentic Communities
- Evolutionary Guidance Systems
- Modeling and Simulation
- Computer-based Technologies

EUROCAST'99

7th International Workshop on Computed Aided Systems Theory and Technology
September 29th – October 2nd, 1999
Vienna, Austria

Topics include but are not limited to:
Systems Theory and CAST as related to:

- Concepts and Models for the Architectural Level of Computer System
- Advancements in Engineering Design Environments
- Complex Models and Simulation
- CAST in Automation and Control
- Applications in Environmental and Energy Systems

Deadline for submitting extended abstracts is March 1st, 1999

WIENER'S CYBERNETICS:

50 YEARS OF EVOLUTION
February 8 – 11, 1999
Las Palmas de Gran Canaria,
Canary Islands, Spain

The general aim is to revisit the contents of Wiener's book and to explore the evolution of the subjects of the different chapters of the book:

- Newtonian and Bergsonian Time
- Groups and Statistical Mechanics
- Time Series
- Information and Communication
- Feed-Back and Oscillation
- Computing Machines and the Nervous System
- Gestalt and Universals
- Cybernetics and Psychopathology
- Language and Society

Of specific interest is to explore the relation of Wiener's approach to current key topics such as Neuroscience, Artificial Intelligence, Robotics, Artificial Life, Genetic Algorithms, Fuzzy Logic, Complexity Theory and others.

-

4TH SYSTEMS SCIENCE EUROPEAN CONGRESS

Valencia – Ibiza, Espana
Sept. 20-24, 1999

Universidad Internacional Menendez y Pelayo
Palacio de Pineda, Plaza del Carmen, 4
Valencia (Espana)

Renseignements / Information:
Sociedad Espanola de Sistemas Generales
Escuela de Investigacion Operativa
Av. Blasco Ibanez, 13
46010 Valencia (Spain)
Phone: 34-6-3864269
Fax: 34-6-3864268
e-mail: Lorenzo.Ferer@uv.es
URL: http://www.uv.es/~pla/SESGE/

Scheduled or suggested SYMPOSIA:

A General Systems Theory and Methodology
B Complexity, chaos and order
C Mathematics Systems Theory
D Social Systems
E Ethical, political and juridical systems
F Uncertainty
G Living systems and Environmental Systems
H Artificial Neural Networks
I Cognition and Artificial Networks
J Data Mining
K Cybernetics and Autonomous Systems
L Systems and Management
M Information and Communication
N Sustainable Development
O The European City of the Future
P Competitivity and quality

THE CYBERNETIC SOCIETY ESSAY PRICE

A NEW LOOK AT CYBERNETICS

ESSAY COMPETITION

The Cybernetics Society is celebrating it's 30th year by launching an essay competition with a £1,000 prize.

Cybernetics is a truly multi-disciplinary science, concerned with information and all forms of systems and their control. The Cybernetics Society, founded in 1968, is the UK's leading body concerned with the science of cybernetics. It's essay competition offers an opportunity for entrants from any field to investigate the relationship of their discipline to cybernetics.

Essays, of not more that 12,000 words, are called for in one or more of the following categories:

- Fundamental cybernetics;
- Mathematics, computing, artificial intelligence and control engineering;
- Linguistics, speech recognition, speech production and artificial language translation;
- Economics, economic models, financial systems, single currency issues etc;
- Biology, genetics, evolution, medicinal drug delivery and controlled release models;
- Understanding of the mechanism of human consciousness.

Essays which bring together categories and discuss their inter-relationship will be particularly welcome since the Society is especially keen to demonstrate the inter-disciplinary nature of cybernetics.

The £1,000 prize is open to anyone with an interest in this important science. The competition will be judged by a panel drawn from experts in each discipline together with specialists from the world of cybernetics. The winning entry will be announced during a special, two day, conference that the Society is holding in Oxford in September 1999. The Society is also negotiating for the publication of a selection of the essays in book form.
In keeping with the diversity of today's communications, entrants may submit their essay in typescript, on magnetic media or by e-mail.

Deadline: June 22, 1999

Dr. Brian Warburton, Chairman of The Cybernetics Society
37a Oatlands Avenue Weybridge
Surrey KT13 9SS
tel.: 01932 843602/850649
e-mail: BrWartburto@AOL.com
http://members.aol.com/BrWarburto/cybernetics oc/cybersoc2.htm

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SYSTEMS ENGINEERING IN EUROPE

A SURVEY OF THE ESI

In the last quarter of 1997 the ESI (The European Software Institute) in Bilbao, Spain conducted a survey with above topic. I reported about this survey in vol. 16 (no. 47). Now some of the results of the survey is available.

The aim of the survey was to identify the System Engineering (SE) needs of European organizations in order to define the most suitable model to meet their requirements. ...
37 companies from 9 European companies replied, with a majority of 52% from United Kingdom
The results of survey indicate that:

- There is a lack of common understanding about the scope of System Engineering
- SE practices do exist but function informally
- Only large companies within the aerospace and defence sectors are particularly interested in the activities of bodies setting SE standards
- There is a need for a generic SE process model as a tool for internal use (internal assessment, source of good practices and guidance for implementation), rather than as a certification or contract standard
- The model would mainly be used to improve the definition of the system requirements
- The generic process model should contain guidance on implementation and a detailed set of good practices (concrete rather than abstract, advisory rather than mandatory)
- Companies want to generic SE model to decrease development time, reduce development cost and produce systems that better meet user needs
- Currently used models are: IEEE1220, EIA632, DoD2167, Do499, Do498, ARP4754, SE-CMM, ISO9000, ISO12207, ISO15288, ISO15504, BS7000, and inhouse models
- Desirable used models are: SE-CMM, DoD2167, DoD2168, ISO9000, ISO15288, IEEE1220, Do499, DO178, ARP4754, ARP4761, TQM

CONFERENCE REPORTS

CONSTRUCTIVISTIC PHILOSOPHY OF SCIENCE

Ernst von Glasersfeld

November 11th 1998,
Kepler University Linz

Glaserfeld explained at first, how growing up with more than one language suggested to me, that there are several realities and for that reason a "reality" independent from relative concepts and language is problematic. With Snapshots from the history of philosophy, memories of Silvio Ceccato (the founder of the operative conceptual analysis) as well as my own interpretation of Piaget and the principles of cybernetics. He made it plausible, that KNOWLEDGE can also be CONSTRUCTED "without the usual ontological crutches".

More details: *michael.endl@jk.uni-linz.ac.at*

JOURNALS

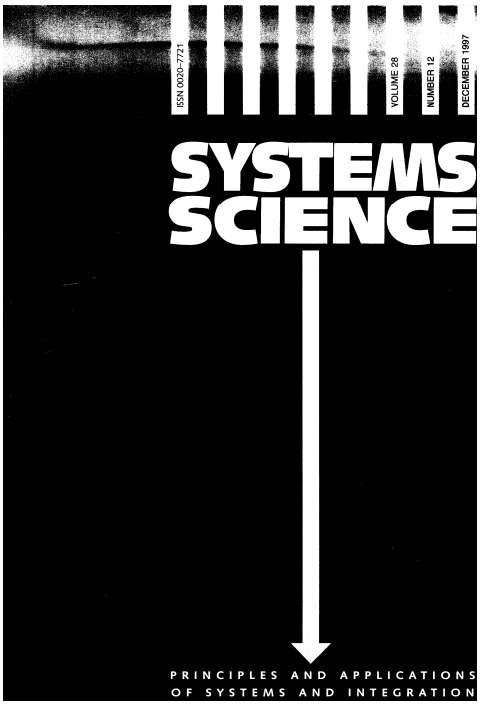
INTERNATIONAL JOURNAL OF SYSTEMS SCIENCE

Editor
Professor C .J. Harris, Department of Electronics and Computer Science, University of Southampton, Highfield, Southampton SO17 1BJ, Hampshire, U.K.

Associate Editors
Dr. D. M. Lane, Ocean Systems Laboratory, Department of Computing and Electrical Engineering, Heriot-Watt University, Riccarton, Edinburgh U.K.
Professor J. K. Sengupta, Department of Economics, University of California, Santa Barbara, U.S.A.

Main topics
Intelligent Autonomous Vehicles
Robotic Manipulators
Distributed Computing Systems

Special issues planned for 1998 include:
Underwater Robotics
Intelligent Control Systems
The AMADEUS dextrous underwater grasping system



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Constrained long-range predictive control based on artificial neural networks
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Adaptive control of slider-crank mechanism motion: Simulations and experiments
F.-J. Lin, R.-F. Fung and Y.-S. Lin

A recurrent network for dynamic system identification
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A Smith predictor FL-based controller for processes with long dead time
F. AAL—Sunni and T. AL-Nemer
An option pricing by eliminating observation noise when the model parameters are unknown1259
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A fixed interval ordering policy for joint optimisation of age replacement and spare part provisioning
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Stability robustness bounds for linear systems with multiple time-varying delayed perturbations
B. Xu
Two-level optimisation for decentralised production and avdvertising planning
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Simple criteria for stability of neutral systems with multiple delays
G.-D. Hui and G.D. Hu

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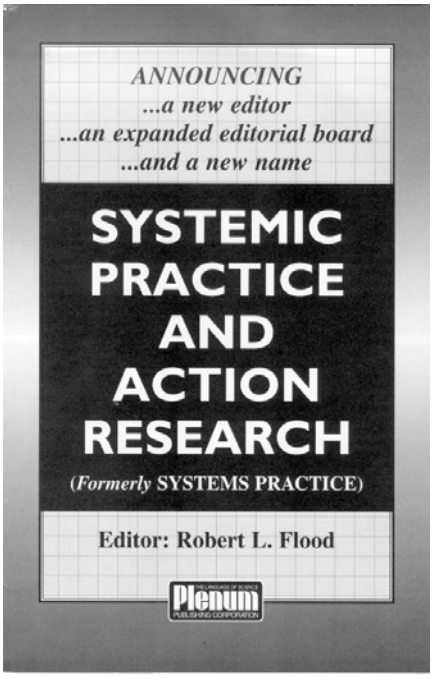

Wisdom, imagination, order, and virtue get lost ...
when messages double, information halves, knowledge quarters,... and there is no way and direction to go in the sky

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Gianfranco Minati, Editor

APOGEO scientifica srl 1998
ISBN 88-7303-432-2,

PROJECT REPORTS

SYSTEMS EAST AND WEST

AN INTERNATIONAL PROJECT

A new project, Systems East and West, was recently launched at the ICSSSE'98 (International Conference of Systems Science and Systems Engineering 1998, Beijing). The project is intended to provide an international forum for promoting mutual learning and co-operation between researchers in the East and the West in the field of systems research and practice. The co-ordination of the project will be based on the Lincoln School of Management, United Kingdom.

Background

The project can be seen as logical development of a pilot project conducted by systems researchers from China, Japan and the UK during the period of 1995 – 1997. The pilot project has supported around twenty international visits, organised three international workshops, published three proceeding as well as tens of articles in international journals, edited books and conference proceedings. It has also given birth to an Oriental systems methodology, involved in several real world programmes such as regional social-economic development strategy planning in China, developing a water-resources management and decision support system, evaluating organisational and project performances in China and the UK, formulating a business automation standard system for China's National Internal Trading Department, researching in China's labour market reform, proposing a computerised model for environmental management in Japan, creating a disaster monitoring and decreasing system in China and Japan, etc. The pilot project has received financial supports from the Chinese Academy of Science, the Chinese National Natural Sciences Foundation, the Institute of Systems Science (China), the Royal Society of Science (UK), the Centre of Systems Studies (Hull), the Lincoln School of Management, The Japan Institute of Systems Research, the Konan University (Japan), the Kansai Research Foundation for Technology Promotion (Japan) and some other Japanese industrial organisations.

Based on our collective experiences, we are convinced that mutual learning and support among Western and Eastern systems researchers are not only necessary and desirable, but also feasible and viable. It is also our belief that international co-operation in systems research and systems practice will have an increasingly significant role to play at the time when humankind faces and interconnected challenges of the 21st century.

The first programme in Beijing

The general project will have at least one major joint programme each year. The first such programme was held in Beijing via the main stream in the ISCCE'98. Focusing at the theme Systems Methodology East and West, participants from China, Japan, Korea, Taiwan, England, Sweden and the Netherlands presented their research and experiences in the real world project. More papers were submitted for discussion from Australia, Ireland and the United States. Presentation topics included not only diverse methodologies from the East as

well as the West, but also comparative analysis of cultural imprints and the searching for synergy between Western and Eastern methodologies.
An edited book based on the stream papers is now under preparation.

Plan for the Year 2000 and beyond
Encouraged by the fruitfulness of the first programme on Beijing 1998, participants and a productive discussion on the activity plan for the next few years. It is proposed and agreed that subsequent major programmes of the project will be held respectively in England (1999). Japan (2000) and Korea (2001). The 1999 programme, which will take place via the 6th UKSS International Conference in the Lincoln School of Management, University of Lincolnshire and Humberside, UK, will focus on the theme Systems Thinking for the 21st Century. It is our desire that, at the decisive time that connects the present and the new millennium, such a theme will challenge and help systems researchers to make collective contributions in assisting humankind to address and improve their unprecedented situation. Given the dynamic transitions in real world situations and rapid developments in systems research/practice, delegates agree to leave the themes for the 2000 and the 2001 programmes unfixed, which will be explored and decided in the 1999 meeting.

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Organizational Memory Systems

Advanced Database & Network Technologies in Organizations

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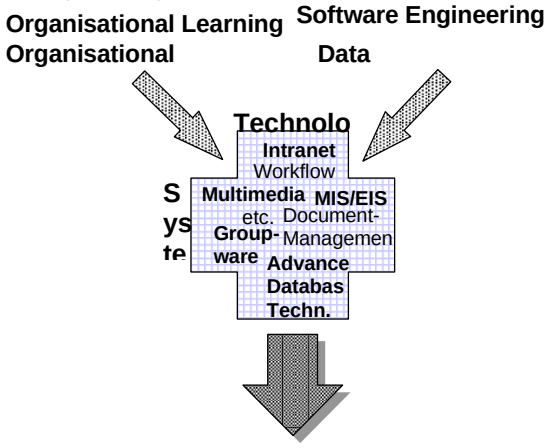
Organisational Memory (OM) is a concept well known from organisation science and learning theory. Many approaches have been developed which claim to guide organisations to use their common or shared memory in a more efficient way. Existing approaches focus on organisational issues and consider the OM as a resource which has to be managed like capital or labour. With the advent of advanced database technologies (e.g. data warehousing, OLAP, data mining, knowledge discovery and bases, distributed data base systems, multimedia and hypermedia data bases) and net technologies, especially the so-called „Intranet"- or „Web"-technologies, sound information technologies exist to support organisational processes of generating, institutionalising, retrieving and disseminating information. However, so far the OM approaches lack the integration of these technologies as means to support the respective processes.



In other words, the author believes that there are so far no „real" OMS-tools (Organisational Memory Systems) available and there possibly never will be an OMS-tool which covers the respective organisational processes on its own. „OMS-tool" stands for development tools or tool-sets, applications or application frameworks respectively. There are, however, technologies and even systems around which support certain aspects of the OM. The integration of the tools and systems can play a crucial and beneficial

role in improving a company's position in the competition with a clear focus on organisational learning projects.
Thus in my understanding an OM system is a system which realises parts of the OM (also called organisational knowledge base) with the help of information systems and/or supports tasks, functions and processes closely related to the use of the OM.

Overall goal of our research work in the field of OM systems is to bring together the concept of OM and the technologies mentioned above. The corresponding main research question is whether the organisational approaches of OM can provide a theoretical framework for the integration of these technologies to support organisational information sharing. The research design used to answer this question consists of three sections:

- **Theoretical section**: A survey of the existing OM approaches documented in the relevant literature is conducted. This forms the basis for the development of a theoretical framework suited for the consideration of information technologies as instruments to support OM.
- **Empirical section**: Firstly, IT products already claiming support for OM and related empirical work e.g. in innovative companies using OM technologies are evaluated and classified. Secondly, the actual and planned use of OM technologies including environmental variables is studied.
- **Practical section**: Research concepts, prototypes and process models will be developed which will be used to further our understanding of IT support for OM and to demonstrate how some of the key OM processes might be supported. The prototypes will show our view of OM support and will be discussed with interested organisations and thus refined.

CALENDAR OF EVENTS

Title	Date and Place	Further Information
Abbreviations: CfP, CfA: Call f.Papers/Abstract, FP: Final Paper due, <No. nn>: more details in issue.nn		
Wiener's Cybernetics: 50 years of Evolution	February 8 – 11, 1999 Las Palmas de Gran Canaria, Canary Islands, Spain	Prof. Roberto Moreno-Diaz CIICC.Inst. Universitario de Ciencia y Tecnologia Cibernetica, Univ. of Las Palmas de Gran Canaria E-35017 Las Palmas de G.C. Spain Phone: +34 928 458750, Fax: +34 928 458785 moreno@ciicc.ulpgc.es/roberto@gvan.dis.ulpgc.es
Humanity, science, technology: The systemic foundations of the information age - 43rd meeting of the international society for the systems sciences	June 27-July 2, 1999 Asilomar Conf.C. Pacific Grove, Calif. USA	For comments and further information contact: Bela Antal Banathy, ISSS President 38 Seca Place, Salinas, CA 93908 USA, email: babanathy@worldnet.att.net, Tel: (831)375-7614
Synergy Matters: Working With Systems in the 21st Century: 6th International Conf. of the United Kingdom Systems Society <no 17/3,4>	July 5-9, 1999	Doreen Gibbs, Lincoln School of Management, University of Lincolnshire and Humberside, Lincoln LN6 7Ts, UK Tel. +44 1522 886202, fax +44 1522 886023, Dgibbs@lincoln.ac.uk
CES-4: Fourth Systems Science European Congress	Valencia – Ibiza Sept. 20-24, 1999	Sociedad Española de Sistemas Generales Escuela de Investigacion Operativa, Av. Blasco Ibañez, 13, 46100 Valencia. Spain tel: 34-96-3864269, fax: 34-96-3864268, Lorenzo.Ferrer@uv.es http://www.uv.es/-pla/SESGE/
EUROCAST'99 7th International Workshop on Computed Aided Systems Theory and Technology-	Sept 29-Oct. 2, 1999 Vienna, Austria CfA: March 1, 1999	Peter Kopacek, EUROCAST'99 Vienna University of Technology, Institute for Handling Devices and Robotics Floragasse 7A, A-1040 Vienna, Austria Tel:: +43-1-504 1835, Fax:+43-1-504 1835-9 e-mailL ecast99@ihrt1.ihrt.tuwien.ac.at www: hppt://www.ihrt.tuwien.ac.at/ECAST99/