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A Resurgence of Mental Health in ISSS

Pamela Buckle Henning

Adelphi University

After several quiet years, a renewed interest in systemic views of mental health is emerging at ISSS meetings. The need is pressing. Will Varey (p. 5) notes:

> Predictions of indicators of psychological wellbeing are that mental health is declining, even though standards of human biological health and access to education are increasing (Desjarlais, Eisenberg, Good, Kleinman 1995)… When disability and impairment are used as the criteria, mental disorders surpass HIV and all forms of cancers in their impact on global health (Ustun 1999).

In the newly-reinstigated Systems Integration Group (SIG) on Systems and Mental Health and in other SIG sessions at the 2010 meeting in Waterloo Canada, several ISSS members explored concerns relevant to mental health, examining such issues as: psychological suffering in individuals, families, and organizations; optimal behaviour amidst such suffering; relationships between mental health and systems of biology, social policy, and natural environment; meaning-making contributing both to suffering and wellness; and liveable systems conducive to human health and thriving. ISSS meetings are becoming a venue for those interested in understanding mental health from systems-informed perspectives. At this meeting, several conversations took place.

Human Development and Psychological Evolution

Psychologists have long been interested in the developmental processes of children, and more recently, of adults. Systems and Mental Health SIG presentations this year focused on both. Gary Metcalf presented his research on the influence of systems thought and thinkers on John Bowlby, a seminal investigator in the field of early child-caregiver attachment and its influence on psychological functioning and growth. Pamela Buckle Henning discussed her work on the development of psychological resilience in adult life, particularly the affective experience of the disequilibrium that inevitably emerges as people move between developmental stages.

The dynamic nature of healthy mental functioning was a topic of discussion in other SIGs as well. Judith Rosen is using anticipatory systems theory to understand how – for individuals, and as a species – our environmental context becomes deeply encoded into psyche and soma, how the encoded information within the body and mind interacts and evolves, and how the particular ways we have encoded the environment within ourselves have become *an actual requirement* for us to effectively function; that, as living systems, we prepare in the present for internally predicted changes in the future – and that this is a vital part of what makes us human. Anticipatory systems theory is a lens she is using to understand how this encoding becomes an evolutionary force in both individuals and the human species.

A person's thought patterns have long been recognized as key factors in mental health. In the Evolutionary Development SIG, Will Varey presented a theoretical perspective on the evolution of *human thought itself*. He notes that a retrospective view of human thought can help us understand the "set of learning choices already created" (p. 5) by humans. Using panarchy theory, he posits we can begin to map emerging patterns in human thought as it evolves in increasing scales of complexity.

Mental health is dynamic. From the individual to species level, "the world's psychological systems are also in transition" (p. 5) and investigating these systems is vital to our understanding of the human experience.

Adaptive Mental Processes

Theorists and social service providers understand that adaptation is key to mental health. Rosen, Varey (2009) and other ISSS members are examining the values-laden notion of "health". Mental pathology, or maladjustment, is also of interest to the mental health profession. Rosen is asking what systems thinkers can contribute to the understanding of the human species, given that our capacity for building mental models and reacting to the predictions those models make can be misaligned with the environment, thereby producing

inaccurate, suboptimal anticipatory predictions and behaviour. She posits this misalignment as a systemic reframing of post-traumatic stress disorder and other anxiety disorders. Conversely, our human capacity for anticipation can be fitness producing, increasing the likelihood of adaptive behaviours and resilience. We evolve along with the environment, as it is encoded into our biological and psychological systems. This ability of human anticipation to both help and hinder adaptation. Individuals' predilection to value the status quo and fear the uncertainties of change – inevitable or adaptive though change may be – are key areas of concern to the field of mental health.

Systems theorists have developed many concepts to describe change. Undertheorized in the systems community is how individuals embrace or dysfunctionally defend against such change. Humans' psychological readiness to develop and evolve is important, but understanding and training people for that is less well considered in the systems sciences. Buckle Henning is working to understand how systems theory can inform such education. She is researching how we can reframe "problematic" change using understandable systems processes.

ISSS members' interests span varied levels of inquiry. Systemic theorizing about the evolving nature of mental health and reflectively engaging in these evolutionary processes are current areas of investigation.

Means of Systemic Inquiry: Researcher as Participant Observer

How to fruitfully investigate mental health is a key concern in the academic community. Psychological literature has well established that researchers, dispassionate though they might seek to be, are themselves subject to the unconscious agendas, fears and drives that are the stuff of mental health inquiry. ISSS scholars' own personal relationship to their areas of systemic inquiry was an open topic of discussion in a number of the SIGs. Buckle Henning's research on the emotional experience of human development alluded to this. Rosen has written about her own self-examination through the lens of self as an anticipatory system. Alexander Laszlo facilitated discussion about what it means to utilize systems concepts in our academic and professional work, *and* to consciously incorporate systems concepts into our personal lives as well. To each of these writers, self-reflection and disclosure are valid and valuable means of inquiry. They are not without challenges, though. As Metcalf acknowledged, mental health research has always generated findings that must be presented to highly subjective humans; such findings are not always comfortable and are not always readily received.

It is difficult to research psychological topics incorporating more than subjective data. Yet full inquiry into any topic must do so. Varey posits a way to access objective data via direct observation of the observer him/herself. In panarchy theory he sees a way to shift from the epistemic relativism for which psychological research is sometimes criticized to an ontological contextualism that can bring new insight.

Final Thoughts

Several ISSS members are writing and discussing about how systems theories, concepts, and methods can further our understanding of mental health. This is vital. Human mental health is inherently connected to and influential on the health of the systems in which we are embedded. Likewise, we are recognizing that human health is a function of our dependence on the environment, as previously-assumed separation between 'self' and 'environment' vanish (Rosen, p. 8). Varey notes that patterns of human thought may form complex hierarchies appropriate to the environments of existence – or not – and that collective thought patterns have crucial effects on the resilience, sustainability, and liveability of our future societies (Homer-Dixon 1999; 2006; Tainter 1988). Studying mental health is about more than solving the problems of human suffering; it is about understanding human wellness and the mental conditions conducive to thriving individuals, families, businesses, and communities.

ISSS has a long tradition of systems thinkers concerned with mental health. As Metcalf's research has discovered, seminal psychological theories have been informed by both direct and indirect input from William Ashby, Gregory Bateson, Fred Emery, Heinz von Foerster, Margaret Mead, Eric Trist, Norbert Wiener and Ludwig von Bertalanffy. Several SIGs can be a catalyzing forum for researchers interested in mental health. Using approaches from rigorously scientific to deeply subjective, systems inquiries about issues germaine to mental health are alive and well in the ISSS community.

The Systems and Mental Health SIG is chaired by Tamar Zohar Harel and Pamela Buckle Henning. To learn more about ISSS members' work on mental health in 2010, refer to the conference prodeedings:

Buckle Henning, P. *Disequilibrium, Development, and Resilience Through Adult Life*

Metcalf, G. *John Bowlby: Rediscovering a Systems Scientist, ISSS Website*

Rosen, J. *Know Thyself: How Anticipatory Systems Theory Can Inform Medical Science and Psychology*

Varey, W. *Psychological Panarchy: Steps to an Ecology of Thought*

Other works cited here:

Desjarlais, R., Eisenberg, L., Good, B., & Kleinman, A. (1995) *World mental health: Problems and priorities in low-income countries.* New York: Oxford University Press.

Homer-Dixon, R. (1999) *Environment, scarcity, and violence*. Princeton NJ: Princeton University Press.

Homer-Dixon, T. (2006) *The upside of down: catastrophe, creativity, and the renewal of civilization*. Washington: Island Press.

Tainter, J. (1988) *The collapse of complex societies*. Cambridge: Cambridge University Press.

Ustun, T. (1999) The global burden of mental disorders. *American Journal of Public Health*, 89(9), 1315-1318.

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Progress in the Development of Natural Society and Living Systems Sciences

James R. Simms

The concept of a natural science of society similar to physics and chemistry evolved from the work of Isaac Newton. "The principle of universal gravitation became a beacon to philosophers of the 18th century's age of enlightenment, and imitating its patterns, they attempted to erect a science of society that rested on similar general laws of nature" (Westfall, 2000).

There was no progress from 1686 when Newton's *Principia* was published until the early 1800s when Comte (1830-1842) identified three stages of life and society sciences must go through to make them a natural science like physics and chemistry. They are (a) theological, (b) metaphysical, and (c) positive. The paradigm during Comte's time was that life could only be explained by a "vital principle" or God.

Approximately a century later (mid 1900s), the biologist, Ludwig von Bertalanffy (1968) moved the paradigm to Comte's positive state. Bertalanffy considered living things to be a part of the natural order, 'systems' like atoms, molecules, and planetary systems.

The discovery of DNA structure by Watson and Crick (1953) and deciphering of the genetic code by Nirenberg, Holley, and Khorana (1961) resulted in the identification of genetic information as a universal phenomenon of life. A current definition of life is "complex physiochemical systems with two main peculiarities (a) storage and replication of molecules in the form of nucleic acid, and (b) the presence of …enzyme catalysis, without enzymes catalysis a system is inert, not alive" (Thain and Hickman, 1996).

Matter is the substance of which a physical object is composed. It occupies space and has mass that constitute the observable universe, and together with energy form the basis for objective phenomena. Einstein treated the relation between matter and energy at the atomic level and discovered his famous energy/mass relationship. The relations between matter and energy have been shown for entities from a diatomic molecule up to and including the Giant Sequoia (Simms, 1971). The universal phenomenon is that matter—both living and non living—have a capacity to direct energy that is a function of their structure.

James G. Miller (1978) developed the foundation of a natural living systems science with his monumental book *Living Systems*. He identified the subjects of the science, described their characteristics, and classified the subjects ranging from the cell up to and including societies. He also described the relations among the subjects of the science. However, *Living Systems* does not reach the level of a natural science because it lacks measures and measurement units for the fundamental phenomena of the science and the relations among these phenomena.

The relation among behavior, a structure's capacity to direct energy and available energy was analyzed to the society level (Simms, 1983). The relation examined was between a society's behavior as a function of the society's capacity to direct energy, which is based on its structure, and on available energy. It was known that there were other determinants of behavior, however they were held constant. It is shown that a society's behavior is a direct function of available energy for a specific societal structure. This relation was

demonstrated by the oil embargo of the 1970s. A reduction in available energy in the form of oil resulted in a lower standard of living for the society. The analysis was reviewed by Alexander King (a cofounder of the Club of Rome), who suggested that available energy could be used as the world monetary unit.

Additional research treated the phenomena of information. It is shown that genetic and biochemical information are universal phenomena of life that can be observed and quantified in terms of the behavior they cause. Genetic information causes protein synthesis behaviors and biochemical information causes biochemical reaction behaviors. It is also shown that neural information is a universal phenomenon of animals that cause motion behaviors. These information phenomena and the behaviors caused by information have been treated for Miller's cell, organ, and organism levels (Simms, 1999). Miller and Miller (1999) wrote the foreword to this book and stated that it was the start of a natural living systems science.

The phenomena of information, its measure, and its relation to living systems science has just been published (Simms, 2011). It provides units of measure for genetic, biochemical, and neural information that are equivalent to the fundamental measurement units of the physical sciences, such as the centimeter, gram, second, erg, calorie, and electron volt.

Identification of information as a universal phenomenon of life and the development of units of measure for information follows the long line of measurement discoveries that extend back to about 10,000 years BC. These developments had significant impacts on the development of human societies. The phenomenon of length and its measure allowed ancient Egyptians to reestablish agriculture property after Nile River floods. The phenomenon of time and its measures allowed the proper planting of seasonal crops and the expansion of agriculture cultures to temperate zones of the earth. The fundamental phenomenon of weight and its measure was a factor in the societal behavior of commerce by trading the weight of one product for a weight of another product

Identification and measurement of universal phenomena and the relations within a phenomenon and between phenomena are a basis for the extant natural sciences. Geometry (earth measurement) is based on the measurement of various shapes and sizes. The motion of planets, based on distance and time, are the basis for astronomy.

The fundamental units of the physical sciences provide a precise and invariant language for hypotheses that can be tested. The units of measure for information provide a precise and invariant language of living systems science and society. This capability does not now exist. It is difficult to carry on a reasonable conversation when different meanings of the word information are used. It is predicted that the phenomenon of information and its measure will provide a basis for a natural living systems science.

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Evolution of Systemic Thinking

Janos Korn

Outline of the Problem

The term 'system' or a 'collection of concrete, abstract or imaginary things that can be considered an organized whole', has been used sporadically over the past like 'the solar system', 'system of rigid bodies' or a 'system of differential equations' by men of science or by people like the 'road system', 'communication system'. The term came into wider use with the development of servomechanisms for directing antiaircraft guns, for example, during the 2nd WW. Perhaps following this development, fields of inquiry like 'cybernetics' and lately 'complexity science' have opened up. Thinkers like von Bertalanffy and Boulding realized the general applicability of the term resulting in ideas like 'general systems theory' as some kind of a super theory. They rejected the relevance of 'conventional science of physics' in its **entirety** which with hindsight was a mistake. Its content may not have been relevant but its attitude of problem solving could have been retained. Its methodology of empirical generalizations expressible in terms of quantifiable properties and leading to models or theories of more or less complexity which are capable of exposure to the test of experience, could have been useful.

The systemic view of concrete, abstract or imaginary things is **empirical, indivisible and pervasive**. There have been a few attempts at developing a general systems theory commensurate with this assertion but the search for this kind of theory appears to have been abandoned. Alternatively, evolution of what is claimed systemic thinking has been going on along highly speculative lines of diverse topics interspaced by a number of methods of modeling, attempts at systems design and so on. A vast number of publications have appeared, conferences and courses at university level have been held. The **essentially universally applicable systemic view** has been fragmented into information systems, social systems, soft/hard systems, control and computer systems and so on. And the trend continues unabated.

Consequently there appears to be a mismatch between the empirical generality of the **systemic view** and the fragmented, speculative **thinking** about this view which is regarded here as a problematic state of affairs. The problem if it is recognized as a problem, may be alleviated by the development of thinking which is equal in generality to the universality of the systemic view. The aim of this presentation is to briefly describe a proposed development aimed at alleviation for the exposure to debate.

Consequences

The diversity of speculative thinking about the systemic view of parts of the world, concrete, abstract or imaginary in the natural, artificial, living and in particular human domains, although inspiring and stimulating, has resulted in disagreement regarding the content of the subject matter of the discipline of systems if there is such a thing. The speculative nature of the approach to this subject has produced a vast amount of jargon, difficulties and confusion when trying practical applications.

The models that have been produced are expressed in vaguely, if at all, defined usually abstract terms difficult to relate to parts of the world without firm empirical basis (i.e. viable systems model), others leading to mathematical models by somehow quantifying qualitative terms (i.e. systems dynamics). Attempts at an approach with design flavour show a lack of appreciation of design thinking and have acquired authority which may have hindered progress (i.e. soft systems methodology).

The human creative and inventive mind as opposed to that of animals which by and large follows genetic instructions, has been using 'means with meaning' for : 1. Imposing beliefs on parts of the world for understanding, explaining, navigating in or making sense of such parts. 2. When possible predicting states and events, and 3. Creating 'that which has never been' i.e. design.

Such 'means with meaning', for example, are : 1. Ancient/current methods (deformation of heated bones, astrology..), 2. Images (pictures, diagrams, signs, gestures, ballet..), 3. Symbols (a. natural language, b. music, c. mathematics) which correspondingly have resulted in :

1. Superstitions, 2. Fine and Performing Arts, 3a. Literature, 3b. Music and 3c. **Conventional Science**. The historical development of 'means with meaning' reflects the intellectual development of humanity.

The immense achievement of '**conventional science**' in making sense of parts of the world and aiding design, engineering and technology is unquestionable. Its influence on the lives, learning and thinking of people has been vast. However, it is unsuited for dealing with irreversible processes, flow of information,

purposive events, design and living, in particular human activity scenarios. On the other hand, the achievement and influence of speculative thinking and models of the currently held systemic view despite its alleged universal applicability to parts of the world, have been insignificant. This thinking and models have been unable to handle the five contentious areas just mentioned. 'Systems science' as science of the systemic view is non-existent.

Description of a 'Science and Design of Systems and Products'

Conventional science is curiosity driven, classified according to domains and its interest is centered on the quantitative description of : 1. Events and their causes, and 2. States and reasons for their existence. It has no interest in the production of causes themselves. On the other hand, systems science is ultimately use driven, domain independent or transcends discipline boundaries. Its interest is centered on the **structure** of events in accordance with purpose (systems) as opposed to **chance** and that of natural and artificial articles of possible use (products). Design thinking of systems and products involving components with predominantly qualitative properties (reflecting values, emotions, ambitions, beliefs and so on) is of prime interest. Appropriate speculative thinking to begin with, the practice of systems science should lead to models expressed in terms sufficiently concrete to be exposed to at least thought experiments and to models of **prototypes** in design.

Production of a 'science' involves two components :

1. 'A creative effort for identifying those concepts which are regarded as 'invariant' throughout a domain possibly resulting in general, **hypothetical statements** (energy is conserved in a closed space, any human action is purposive)', and

2. 'A symbolism capable of turning concepts into qualitative and/or quantitative models or theoretical structures capable of **reasoning** by being manipulable'.

The first component of **static and dynamic linguistic modeling** (LM) which is under consideration here, comprises 'The notions of : Property, Empirical and theoretical objects, Relation, Interaction and impression', and

The second component comprises 'Processed natural language leading into static and dynamic LM'. Structures in static state like a component or a '**product**' can be modeled in terms of 'ordered pairs' consisting of properties, objects and relations. Structures in dynamic state like a '**system**' are described in terms of 'predicate logic statements' which allow the propagation of state towards **outcomes**. The topology of each is diagrammed by 'linguistic networks' and 'semantic diagrams' respectively.

Advantages and Problems of Static and Dynamic Linguistic Modeling (LM)

Static and dynamic linguistic modeling is offered as a means to match the **empirical generality** of the systemic view to a framework for **thinking** about this view. This modeling represents a shift from the phenomenological view of conventional science to the systemic view of parts of the world : 'Anything can be seen as related properties or objects' or

'Whole > sum (?) of its parts' but 'Whole = sum (?) of its appropriately **related** parts'.

1. A scenario is described in natural language, the primary model, which is turned into an organised collection of 'basic elements' of one – and two – place sentences by meaning preserving transformations. This homogeneous language clearly exhibits the initiating and affected objects or **agents**, their functional aspects, their driving and other properties and relations and interactions. These are connected into linguistic networks of ordered pairs in static state and into semantic diagrams of predicate logic conditionals in dynamic state.

Dynamic LM through predicate logic turns declarative sentences into 'conditionals' of the 'If… then' form showing the dependency of occurrence of an outcome on conditions expressed by qualifying properties (adjectives and adverbs). Doubt has entered the scheme of things.

2. Functional objects comprising purposive systems inclusive of selected **changing objects** implicit in scenarios with technical and/or living or human components are clearly identified.

3. Semantic diagrams propagate states in time towards **outcomes** and can carry uncertainty and mathematics.

4. The structure of a product as part of a process of design thinking consisting of ordered pairs, is identified. The number of systems for creating a product is equal to the number of its ordered pairs which is a

measure of complexity of a scenario. The same idea is seen to drive a **hierarchical evolution** towards higher levels of complexity so as to produce new, emergent properties to facilitate fitness into an **environment**. The structure of a **prototype**, the end product of design, is modeled as a semantic diagram for the assessment of performance, acceptability and so on.

5. The approach outlined here introduces **reductionism** into the systemic view. It is rooted in branches of current knowledge like linguistics, logic, mathematics and uses domain knowledge of physics, for example, as demanded by particular applications. There is, thus a continuity of theoretical development has emerged from 'conventional science to systems science'.

6. Practical applications of static and dynamic LM require software development which is not yet available. Also, the terms, procedures and techniques of LM need to be learnt just like say physics. LM needs discussion of acceptability and further development if passes the test of debate. Humanity has survived so far without their behavior being modeled in the way suggested here.

Research Update

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In 2009, as the health care debate in the U.S was increasing its crescendo, a research study, based on systems science, asked a fundamental question: Is U.S. health care an appropriate system? The conclusion was that the U.S. health care was an incomplete and quite a vulnerable system, based on comparison with systems science principles, and that it was functioning in the zone of chaos within the dynamic systems model (Janecka 2009).

At that time, the health care debate was seeking changes in order to control the projected unsustainable economic cost and extend insurance coverage to the uninsured. Since then, the vertical/governing political hierarchy of our societal system has legalized new changes for the nation's health care system. The alterations have been numerous and their impact is considered hopeful by some but unacceptable to others. This current update raises several basic questions and the emerging answers, in metaphors, are underlined:

The questions: Will the new legislation further harm the current system? How does it fit within the larger societal system cycles? Will it create value?

1-Will the new legislation harm the current system? Primum non nocere!

According to the systems science principles, to restructure health care in order for it to resemble a well-functioning complex adaptive system, the focus needs to be on re-establishing the whole system's coherence through the return to organized complexity. And, that's a tall order. Anything less than that will not prove to be a system-optimizing move. On the contrary, because the current system is already within the zone of chaos, where the principles of chaos theory operate, there is a heightened probability of a "butterfly effect," or as it has been recently popularized in the financial circles, a "black swan," with severe destabilization of the legislatively-altered system; and, the risk would rise not just for health care but for the economy and the society as a whole. Systems science insight: a blinking red light.

2-How does it fit within the larger societal system cycles?

Even a cursory look at the Kondratieff's Long Wave (based on economic credit expansion and contraction) (http://seekingalpha.com/user/139406/instablog/5) would have warned the Obama administration to first focus on rebuilding societal trust because they ascended to country's leadership at the time of cresting of the Wave and undeniably a time of severe dilution of trust. (Credit is closely related to trust.).

The Obama administration was elected with the slogan "change we can believe in," a classic fit into the last segment of the Long Wave which represents maximum expansion of credit with dilution of trust. It is very difficult to succeed when going against a major societal cycle however, and so far, the evidence supports this notion. The Wave down, the rebuilding of credit/trust may be a prolonged one as simple numerical calculations, from previous Kondratieff's Waves, would indicate its completion in 2026-28 timeframe (http://

seekingalpha.com/user/139406/instablog/7). Trust is indeed hard to rebuild. Systems science insight: a green light is not visible yet.

3-Will it create value?

Value is not intrinsic to anything or to anyone. Value only arises in a system as its emergence, based on self-organizing relationships; it's a transient state. To achieve value, self-organizing relationships (read: horizontal hierarchy/people in the trenches) must be "free." Although, free markets are the pre-requisites for true self-organization which is capable of producing collective intelligence, the market freedom is able to achieve value only within a system-optimizing vertical hierarchy. In this context, it is the needed legislative/ political structure of the larger societal system. Both the horizontal and the vertical hierarchy, the people in the trenches and the government, have to be in an ongoing, and again, a system-optimizing relationship. Systems science insight: no light is available; energy outage.

The research into the evolving changes of U.S. health care continues. So far, there is little evidence that system-optimizing steps have been taken. The need for sharing systems thinking with health care and legislative principals is paramount.

Janecka IP: Is U.S. health care an appropriate system? A strategic perspective from systems science. Health Research Policy and Systems 7:1, 2009 (www.health-policy- systems.com/content/7/1/1)

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Moral Codes III: Spin and Regularization in Judgment—Part 2

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Introduction

The objective of this paper is to extend the model of the author's previous paper *Thermodynamic Modelling of Moral Codes (Moral Codes I,* [1] 2001) beyond energy and entropy to include magnetization and two "polarizations," so as to be able to describe more social science phenomena. In particular, according to the method of E.T. Jaynes [3, p.623] the maximum entropy density is based on the form

P(xi) = exp[-c+beta(-E(xi)+h*M(xi)+g*L(xi) +v*P(xi))] where c is a normalization*

Constant related to the so-called partition function Z = exp[c] and beta = 1/T with T equal to the (abstract) temperature. Here E stands for the quadratic (based on level) social cost in Moral Codes I or the Ising energy (based on spin) in this model, M stands for magnetization (evidence or propaganda in the social setting), L stands for left-right polarization (in the political setting) and P stands for vertical polarization.

The derivation shows that the above form of solution maximizes the entropy of the density subject to the constraints on *E,M,L, and P*, that they have given average values.

A future project is to combine the two types of energy. Here (*Moral Codes III)* in the Ising model it is the opinion (plus or minus spin) of 6 individuals that is of interest, so that there is no interaction with the unknown internal level of the individuals. Thus the applications of *Moral Codes III* are to judgments, voting and so on,

about moral or political cases. There is no discussion about whether or not as part of a jury, a war veteran, say, who had killed people in a war, would be more or less likely to convict a person charged with murder. The subject of *Moral Codes III* is probability densities of judgments (for—plus spin, or against—minus spin) rather than probability densities of population moral levels.

Moral Codes / Repeat

According to *Moral Codes I*, at higher temperatures, the levels of the moral code are filled out until as (abstract) temperature goes to infinity, the density becomes uniform (probability equals 10%) over the ten levels, which are the following:

- "saint," making everyone better
- "Good Samaritan," making most better

- Productive citizen, service making some better, but with limited risk to self
- Decent person of good will, honors parents, not greedy but protects own interests
- Law–abiding but has self interest with possible thought crime such as coveting
- Word crime: swearing, lying, as well as thought crime
- Property crime, stealing, cheating
- Violent crime, assault
- Murder
- Mass murder, treason, crime against humanity, making holes in the dikes

Jury/Voting Model/Spin

Now comes the main topic of the current paper, which is a model of judgments or voting by population members about moral questions. In particular it is observed that, working with symmetric densities, the energy is left unchanged by a spin flip or interchanging level 0 with 9, 1 with 8, 2 with 7, 3 with 6, and 4 with 5. Thus for a given moral problem, there are two states, a plus spin with levels 0 to 9 left intact, and a minus spin with levels interchanged. The model works with 6 individuals, so that with a 6-man jury, to convict all spins would have to be up, say indicating evidence, and to acquit, all spins would have to be down; otherwise there would be a hung jury. If initially three of the 6 thought the defendant were guilty and three thought the defendant innocent, then to avoid a hung jury, the spins of three of the six would have to change.

With 6 individuals, there are 2^6 = 64 possible states for the system, as each person could vote up or down. As mentioned in the introduction, a supposed Jaynes model, [4,p.623], is set up with four functions Ising energy E, magnetization M, left-right polarization L, and north-south polarization P.

Politically, the 6 units can be considered as six sections of a country, which can either vote plus or minus. The plus side can be considered to win an election if the probability of states with four or more spins plus (out of 6) adds to more than 50%.

The values of spin plus or minus one of the six individuals can be arranged as in a #6 domino, for example
1 1 -1

1 -1 1.

The Ising energy E is difficult to explain, but each individual spin is multiplied by nearest-neighbor spin and added; then the sum is taken over each individual. Finally the negative is taken. Diagonal relationship is not considered nearest-neighbor. For the above case, the top three individuals contribute the following: (1+1) + (1 -1 -1) + (-1 -1).

Then the bottom row contributes (1-1) + (-1 -1 -1) + (-1 -1) to give a total 2-1-2+0-3-2=

-6, or taking negative E = 6. The upper left individual contributes 1*1+ 1*1= 1+1 =2 since he has two nearest neighbors, which are both spin 1. The upper middle individual has a neighbor to the left contributing 1*1=1, a neighbor below contributing 1*(-1) =-1 and a neighbor to the right contributing 1*(-1) = -1.

The left-right polarization L is obtained by taking a “dot-product” of the individual spins with the pattern -1 0 1 . For example the L-value for the above case would be -1 +0 -1

-1 0 1 -1 +0+1

= -2.

The north-south polarization P is obtained by taking the dot product with the pattern

1 1 1. The above case would yield 1 +1 -1 for a P-value of +2.

-1 -1 -1 -1 +1 -1

The magnetization M is the easiest to calculate as merely the number of plus 1’s minus the number of minus ones, i.e. the net sum. The above example would give M = 4-2 = 2.

The above values of E, M, L and P are extensive quantities determined by the given pattern of plus’s and minus’s. The values of beta= 1/T, h, g, and v are intensive quantities imposed from outside. For the social science setting, the value of magnetic field strength h could be considered as the amount of evidence (say, plus—for conviction and minus—against) or magnetism of the lawyer or propaganda. The value of g could

be considered the amount of effort to polarize opinion to the left or right. The value of v can be considered as the amount of effort to polarize opinion on a north-south or top-bottom basis. An increasing value of temperature T, as outlined above, has the effect of spreading the probability over all the different states. A low value of T generally concentrates the probability into only a few states. If any intensive values are set to zero, the effect is eliminated.

The process of obtaining a verdict by a jury could be considered as similar to simulated annealing, whereby at first there are many possible states but the temperature is gradually lowered until one state dominates.

Computer Program

A *Mathematica* program implements the Gibbs/Jaynes/Ising model described above. Please see Appendix I. The program calculates the probability of each of the 64 states for given values of beta (1/T), h, g, and v. A diagram illustrates the state and the probability is put underneath. For visibility, black is taken as plus spin and white as negative spin, although this selection could be reversed. A couple worksheets handed out as homework for the author's Mate4071.040 (Intro. to Methods of Modern Science II) class are also included.

Results

The program worked as expected. A few examples are listed:

Jury decisions:

No evidence or bias. Low temperature. At T = 1/20, with other intensive variables set equal to 0, essentially all probability is concentrated on all plus spin (state 1) or all minus spin (state 64), each with probability ½. There is no way to decide the case.

Evidence against the defendant. At low temperature (T= 1/20) with evidence against the defendant (h =1) and other variables equal to 0, essentially all probability is concentrated on conviction (state 1).

Lack of evidence against the defendant. At low temperature (T=1/20) with lack of evidence against the defendant (h= -1), essentially all probability is concentrated on acquittal (state 64).

Stubborn jurors. If left-right polarization is set to g=2, with T= 1/2, and h= 1, and v= 0, there would be a hung jury since all probability is not concentrated on either state 1 (convict) or state 64 (acquit).

Voting behavior:

Suppose the electorate is polarized with g=5, so that the two sections to the left tend to vote minus and the two sections to the right tend to vote plus. Suppose debates and advertising favoring right (plus), so that h= 3. At temperature T= 1/20, the right would win either with all votes (state 1 has 50%) or with 4 votes (state 37 with 4 sections to right voting plus also has 50%).

At high temperature (say T = 5), there is more or less random voting. Most states have about the same probability.

Many other possibilities can be investigated. A typical case is listed as the output of Appendix I.

Regularization

Mathematically regularization involves methods to decide ambiguous cases, for example optical illusions in optics. As an example the usual two-dimensional drawing of a cube can be seen in two different ways, depending on whether the lower left square is viewed as front, or the upper right square is viewed as front. Applying boldface to one or the other squares would favor one way of viewing over the other. Similarly in moral decisions the magnetization field can be viewed as making one decision or the other more likely when there is no other way to decide, as in case 1 above. However at present there is no way to judge whether or not the magnetization field is due to actual evidence or magnetism of the lawyer or propaganda, and so on. Thus more work remains to be done on regularization.

Governance for a Resilient Planet

The idea is that governance could be helped by adjusting the above-mentioned parameters for different cases of decision making, possibly by mutual consent. For example if it is desired to have more favorable outcomes of court cases for developing (say South) countries, the vertical (North-South) parameter could

be adjusted in favor of the South with v=-2. Also the method provides a way of computer decision making which can be checked against actual decisions to see which decisions are "out of line."

Conclusion

The model allows study of many decision-making processes.

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Collins, Dennis 2010, Moral Codes III (= Moral Codes III Part 1), *General Systems Bulletin Vol. XXXIX*, pp.16-18.

Jaynes, E.T. 1957, Information Theory and Statistical Mechanics, *Physical Review, Vol 106*, pp.620-630.

Appendix

```
ClearAll

n=64;

tuples=Tuples[{1,0},{2,3}];

U=Thumbnail[ArrayPlot[#],25]&/@tuples;

Length[U];
G={{-14,6,0,0},{-6,4,-2,2},{-2,4,0,2},{-2,2,-2,4},
   {-6,4,2,2},{2,2,0,4},{-2,2,2,4},{-2,0,0,6},
   {-6,4,-2,-2},{-6,2,-4,0},{6,2,-2,0},{-2,0,-4,2},
   {2,2,0,0},{2,0,-2,2},{6,0,0,2},{-2,-2,-2,4},
   {-2,4,0,-2},{6,2,-2,0},{2,2,0,0},{2,0,-2,2},
   {6,2,2,0},{14,0,0,2},{2,0,2,2},{2,-2,0,4},
   {-2,2,-2,-4},{-2,0,-4,-2},{2,0,-2,-2},{-6,-2,-4,0},
   {6,0,0,-2},{6,-2,-2,0},{2,-2,0,0},{-6,-4,-2,2},
   {-6,4,2,-2},{2,2,0,0},{6,2,2,0},{6,0,0,2},
   {-6,2,4,0},{2,0,2,2},{-2,0,4,2},{-2,-2,2,4},
   {2,2,0,-4},{2,0,-2,-2},{14,0,0,-2},{6,-2,-2,0},
   {2,0,2,-2},{2,-2,0,0},{6,-2,2,0},{-2,-4,0,2},
   {-2,2,2,-4},{6,0,0,-2},{2,0,2,-2},{2,-2,0,0},
   {-2,0,4,-2},{6,-2,2,0},{-6,-2,4,0},{-6,-4,2,2},
   {-2,0,0,-6},{-2,-2,-2,-4},{2,-2,0,0},{-6,-4,-2,-2},
   {-2,-2,2,-4},{-2,-4,0,-2},{-6,-4,2,-2},{-14,-6,0,0}};

MatrixForm[G];
T=6;b=1/T;h=4;g=5;v=4;
P=Table[Transpose[{{i,U[[i]],N[Exp[b*(-G[[i,1]]+h*G[[i,2]]+g*G[[i,3]]+v*G[[i,
4]])]/Sum[Exp[b*(-G[[k,1]]+h*G[[k,2]]+g*G[[k,3]]+v*G[[k,4]])],{k,1,64}]]}},{
i,1,64}];MatrixForm[P];
V=Partition[P,4];MatrixForm[V]
Q=Table[Sum[G[[i,m]]*N[Exp[b*(-G[[i,1]]+h*G[[i,2]]+g*G[[i,3]]+v*G[[i,4]])]/
Sum[Exp[b*(-G[[k,1]]+h*G[[k,2]]+g*G[[k,3]]+v*G[[k,4]])],{k,1,64}]],{i,1,64}],
{m,1,4}]
```

Remark: The 64 cases appear below with the probability of the case given below and the number of the case above for the given parameters, and the 1's in black out of the number6 domino pattern. Occasionally it is necessary to refer to patterns above and below a given pattern to see exactly where the 1's are.

Life's Laws Rediscovered: The Twelve Natural Laws of Living Systems

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Ludwig von Bertalanffy was an intellectual titan of the 20th century and the founder of general systems theory. In 1954, von Bertalanffy formed the Society of General Systems Research (now ISSS) to explore this advanced method of critical thinking that can be applied to nearly every area of life. His goal was to "find the unity of science for all living systems"

In December 1972, six months after the death of Bertalanffy, the *Academy of American Management Journal* published the Twelve Characteristics of Living and Open Systems, which stems from the research of the Society of General Systems Research. This journal article listed the Twelve Codes or DNA Laws of Living Systems to utilize for all levels of living systems (see James Grier Miller's *Living Systems*).

These laws are really the touchstone for the worldwide applications of the entire field of Systems Thinking. However, most people are unaware of this foundational source document, which has been lost over time. This article revisits and interprets these Twelve Natural Laws so we can understand and use them as a **"Universal Thinking Guide and Framework"** for applying Systems Thinking. My personal vision is to take these applications mainstream through the Global Association for Systems Thinking, a new clearinghouse and worldwide alliance (www.globalast.org).

The Six Whole System Laws

Based on the characteristics of General Systems Theory above, there are six laws and characteristics on earth that make up *every* living system at all levels, just like the laws of chemistry or physics. In every living system, "the whole is greater than the sum of the parts." This is due to the integrated nature of these six characteristics from the research of the Society for General Systems Research:

Holism

Systems Thinking is finding patterns and relationships, and learning to reinforce or change these patterns to fulfill your vision and mission. In this approach, the whole is primary and the parts are secondary, so a focus on maximizing the parts leads to suboptimizing the whole.

The whole is not just the sum of the parts; the system itself can be explained only as a totality. Holism is the opposite of elementariness, which views the total as the sum of its individual parts. Overall, holism leads to purposeful perspectives and synergy.

Open Systems

Systems can be characterized in two ways: (1) closed or (2) open (with degrees thereof). Open systems exchange information, energy or material with their environment. Biological and social systems are inherently open systems, while mechanical systems may be open or closed. The concepts of open and closed systems are difficult to defend in the absolute. I prefer to think of open-closed as a continuum—that is, systems are relatively open or relatively closed.

Boundaries

It follows that systems have boundaries that define the limits of a particular system and separate them from their environments. The concept of boundaries helps clarify the distinction between open and closed systems. The closed system has rigid, impenetrable boundaries, whereas the open system has permeable boundaries between itself and broader supra-systems.

Boundaries are easily defined in physical and biological systems, but are difficult to delineate in social systems such as organizations, communities and societies. Even the earth's boundaries are open to the universe.

Inputs/ Outputs

An open system is best understood and viewed as a transformational process. In a dynamic relationship with its environment, a system receives various inputs, transforms them as throughputs through various processes, then sends outputs into its environment. This law encompasses the natural operating of all living systems.

Feedback

The concept of feedback is important in understanding how a system maintains a steady state and adapts to its environment. Information concerning the outputs and the process of the system is *fed back* as new inputs into the system, perhaps leading to changes in the transformation process or future outputs. In fact, feedback is the framework for transformation. The more feedback open systems receive from the environment, the more likely they are to sustain their existence longer and more effectively.

Feedback can be both positive and negative, although the field of cybernetics is based on negative feedback. Negative feedback is information input that indicates that the system is deviating from a prescribed course and should readjust to achieve a new state.

Multiple Outcomes

Biological and social systems appear to have multiple goals or purposes, which lead to multiple outcomes. Social organizations have multiple goals, if for no other reason than that they are composed of individuals and subunits with different values and objectives. Since all social systems have multiple goals, building consensus on them first is the key to achieving these goals. Clarity of goals is also crucial—as Steven Covey writes in his bestseller, *The Seven Habits of Highly Successful People*, "Begin with the end in mind."

The Inner Workings of Living Systems

All living systems also have a set of standard internal relationships and dynamics, which are marked by six more of the laws identified in the same research by the Society for General Systems Research:

Equifinality

In mechanistic systems, there is a direct cause-and-effect relationship between the initial conditions and the final state. Biological and social systems operate differently. Equifinality suggests that certain results may be achieved with different initial conditions and in different ways. This view suggests that social organizations are flexible and adaptive, and can accomplish their objectives with diverse inputs and varying internal activities.

Entropy

Closed, physical systems are subject to the force of entropy that increases until the entire system eventually fails. The tendency toward maximum entropy is a movement to disorder, complete lack of resource transformation and termination. All systems have a tendency towards maximum entropy, but since importing resources from the environment is key to long-term viability, closed systems move toward this disorganization faster than open systems.

In a closed system, a change in entropy always results in death; however, in open biological or social systems, entropy can be arrested and even be transformed into negative entropy—a process of more complete organization and ability to transform resources—because the system imports resources from its environment. The key is renewal and continual reinforcement.

Hierarchies

A basic concept in Systems Thinking is that all systems have a natural hierarchy. A system is composed of subsystems of a lower order and is also part of the supra-systems above it. (See Miller's *Living Systems* for the eight levels that compose this hierarchy.)

Since systems can only be understood holistically, start with the system and its environment. As open systems, organizations are only viable in mutual interaction with and adaptation to the changing environment.

Interrelated Components

All systems by definition are composed of interrelated parts or elements, or subsystems. Every mechanical, biological and social system has at least two interconnected elements.

While each system functions uniquely, its parts are interdependent, weaving a web of relationships. A change in any element affects the whole system, as well as its other parts. As a result, yesterday's great solutions may lead to today's issues and unintended consequences. An exclusive focus on one element or subsystem without simultaneous attention to others leads to suboptimal results and new disturbances for the system as a whole. Often, the solution or "simple cure" can be worse than the real disease.

Every system cannot be subdivided into independent parts; conversely, a system as a whole cannot function effectively when it loses a part. Begin with the whole and its purposes within its environment, and then the parts (departments) and their relationships evolve from this. Since parts play their role in light of the purpose for which the whole exists, focus on the desired outcomes, not just the problems of the parts.

Dynamic Equilibrium

The concept of “steady state” is closely related to that of negative entropy. A closed system eventually will attain an equilibrium state with maximum entropy—death or disorganization. However, an open system may attain and maintain a state where the system remains in dynamic equilibrium through the continuous inflow of materials, energy and information.

Systems have a natural pace to them, so sometimes trying to go faster is ultimately slower. Delay time and delayed reactions—along with cause and effect being unrelated in time and space—cause inaccurate diagnoses and solutions. Direct cause-and-effect is an environmentally-free concept.

Internal Elaboration

Closed systems move toward entropy and disorganization. In contrast, open systems appear to move in the direction of greater differentiation, elaboration and a higher level of organization that simultaneously yield details, growth and sophistication. However, the loss of simplicity and the growth of complexity and bureaucracy is the result.

Conclusion

A system cannot be understood through analysis, but through synthesis—looking at it as a whole within its environment. Thus, in the living system that is an organization, we don’t deal with problems—we deal with “messes of interrelated problems with huge unintended consequences.” And as Russell L. Ackoff, the former chairman of Interact, wisely said, *“Effective managers do not solve problems. They dissolve messes*

SECTION TWO:
MEETINGS AND CONFERENCES

55th Meeting of the International Society for the Systems Sciences

Hull University Business School, Hull, UK

July 17-22, 2011

Theme: All together now – working across disciplines: People, principles and practice

In 1956, Kenneth Boulding, in his Skeleton of Science, wrote about the need for increasingly complex methods and approaches for managing ever-increasing levels of complex systems. In 1990, Julie Klein wrote of "a subtle restructuring of knowledge", changing "the way we think about the way we think" and yet, after all these years, although intuitively it may be recognized that more than any single discipline is needed to address complex systems, there is still ambiguity about the principles and processes of transdisciplinary systemic working and the capabilities and skills needed to do so.

"All together now – working across disciplines: people, principles and practice", is the theme of the 55th meeting of the ISSS. We have learnt, that although academic rigour benefits from being razor-sharp in concept and thinking, transdisciplinary systemic practice benefits from the possibility to tap into a large portfolio of different and sometimes contrasting models, methods and instruments. The quest for successful holistic applications highlights the necessity to work across disciplines and to unite the different systemic schools and disciplines and to develop the people skills and capabilities for doing so. "All together now" shall be an invitation to explore the conditions for the possibility to improve and increase systemic applications and the performance for contemporary and future challenges in business, politics, project management and education – to name but a few.

These complex 'messy' issues require acknowledgement and commitment to the advantages of transdisciplinary research and practice while also exploring and debating the problems experienced by the people involved in this research, and the issues inherent in the development of the theory and practice of our approaches. We encourage those interested in attending the conference to submit an abstract for a full paper or poster, or organize a workshop or other session stream, and begin working with us in creating this important event.

Location

The 2011 Conference of the International Society for Systems Sciences will be hosted by Hull University Business School, one of the top Business Schools in the UK, and home to one of the oldest teaching departments in Management Systems and the Centre for Systems Studies. The Business School is located in a newly-refurbished interlinked set of red brick buildings at the University of Hull, on Cottingham Road in Hull, UK.

The City of Kingston upon Hull is about 35 miles due east from York, and 200 miles north of London. It is easily reached from several major airports (London Heathrow, Gatwick, Stanstead and Luton), Manchester, Leeds and Humberside. Trains and buses from these airports to Hull are easily accessible. The City and Region can be explored through the Hull and East Yorkshire website, and additional details about transportation and accommodation will be posted shortly on the Travel and Accommodation pages on this conference website.

We look forward to seeing you in Hull in July!

Dr Jennifer Wilby, President 2010-11

Dr Louis Klein, VP for Conferences and Membership 2010-11

Call for Papers

Special integration groups (SIGs) and exploratory sessions are being planned in the following areas (see the website for contact details for each group):

- Agent-based Social Systems
- Balancing Individualism and Collectivism
- Critical Systems Theory & Practice
- Designing Educational Systems
- Economic and Financial Systems
- Evolutionary Development
- Foundations of Information Systems
- Hierarchy Theory
- Human Systems Inquiry
- Information Systems Design and Information Technology
- ISSS Roundtable
- Living Systems Analysis
- Medical and Health Systems
- Organizational Transformation and Social Change
- Research Towards General Theories of Systems
- Service Systems Science
- Socio-Ecological Systems
- Spirituality and Systems
- Student SIG
- Systemic Approaches to Conflict and Crises
- Systemic Approaches to Poverty and Disadvantage
- Systems Applications in Business & Industry
- Systems Biology and Evolution
- Systems and Mental Health
- Systems Modeling and Simulation
- Systems Pathology
- Systems Specific Technology
- What is Life and Living

Social Programs

There will be a welcome reception on Sunday evening, July 17. The conference

banquet will be held on Thursday, July 21.

Registration Rates

Registration fees are listed on the website.

The registration fee includes:

- The program/abstract book
- 2011 CD-ROM proceedings
- Reception on Sunday July 17
- ISSS membership fees for 2012
- The registration fee also includes tea/coffee breaks and lunches from Monday to Friday.

The registration fee does not cover accommodation or transportation expenses to and from the conference site.

For further details please check the website at www.isss.org/world or contact isssoffice@dsl.pipex.com

Summit on Systems Biology 2011: Molecular Networks and Disease

June 15-17, 2011

Jefferson Hotel in Richmond, Virginia

Announcing the 4th Summit on Systems Biology: Molecular Networks and Disease, with a major focus on research into the genetic and molecular factors involved in human disease - to be held June 15,16, and 17 at the historic Jefferson Hotel in Richmond, Virginia. Abstract submission begins January 2011. Registration begins in February 2011.

Researchers in each session topic area and related fields are encouraged to submit abstracts to participate in this conference by speaking at a session or by presenting a poster during the poster session. Plan for your presentation now!

Conference Website: http://www.vcu.edu/csbc/systemsbiologysummit/

Third International Symposium on Process Organization Studies: Theme: How Matter Matters: Objects, Artifacts and Materiality in Organization Studies

www.process-symposium.com

16-18 June 2011, Corfu, Greece

Aquis Corfu Holiday Palace Hotel

(http://www.aquisresorts.com/hotels/corfu/holiday-palace-hotel)

For more details please see the attachment and visit our website: http://www.process-symposium.com/

2011 2nd World Congress on Computer Science and Information Engineering (CSIE 2011)

17-19 June 2011, Changchun, China

http://world-research-institute.org/conferences/CSIE/2011

CSIE 2011 intends to be a global forum for researchers and engineers to present and discuss recent advances and new techniques in computer science and information engineering. Topics of interests include, but are not limited to, data mining & data engineering, intelligent systems, software engineering, computer applications, communications & networking, computer hardware, VLSI, & embedded systems, multimedia & signal processing, computer control, robotics, and automation.

All papers in the CSIE 2011 conference proceedings will be indexed in Ei Compendex and ISTP, as well as included in the IEEE Xplore (The previous conference CSIE 2009 has already been indexed in Ei Compendex and included in the IEEE Xplore). IEEE Catalog Number: CFP1160F-PRT. ISBN: 978-1-4244-8361-7.

Contact Information

If you have any inquiries, please email us at CSIE2011@cust.edu.cn

Eighth International Conference on Complex Systems (ICCS 2011)

June 26 - July 1, 2011

Boston Marriott, Quincy, MA, USA

ICCS TOPICS: UNIFYING THEMES IN COMPLEX SYSTEMS

Host: New England Complex Systems Institute

This is the eighth in a series of conferences with two major aims: first, to investigate those properties or characteristics that appear to be common to the very different complex systems now under study; and second, to encourage cross fertilization among the many disciplines involved. For further information, contact us at iccs@necsi.edu

2011 Frontiers in Service Conference

Center for Excellence in Service

June 30 — July 3, 2011

Columbus, Ohio, USA

CURRENT TOPICS
- ♦ Service Science
- ♦ Service Information Technology
- ♦ Service Innovation
- ♦ Service Marketing
- ♦ Empirical Studies of Service
- ♦ Theoretical Perspectives on Service
- ♦ Service Engineering
- ♦ Service Design
- ♦ Service Productivity
- ♦ Healthcare Service
- ♦ Service Operations
- ♦ Service Human Resources
- ♦ E-Service
- ♦ Customer Relationship Management
- ♦ Globalization
- ♦ Government Policy
- ♦ Public Sector
- ♦ E-Government
- ♦ Trade in Service
- ♦ Other topics in research

For further information, please email cbaran@rhsmith.umd.edu

World OR: Global Economy and Sustainable Environment: 19th Triennial

Conference of the International Federation of Operational Research Societies

10th - 15th July, 2011 Melbourne, Australia

Authors wishing to present are requested to submit an abstract of not more

than 100 words via the Abstract Submission system at: http://www.euro-online.org/conf/ifors2011/

The 15th World Multi-Conference on Systemics, Cybernetics and Informatics:

WMSCI 2011

Orlando, Florida, USA

July 19th - July 22nd, 2011

(www.2011iiisconferences.org/wmsci)

Authors of the best 10%-20% of the papers presented at the conference (included those virtually presented) will be invited to adapt their papers for their publication in the Journal of Systemics, Cybernetics and Informatics.

7th International Conference on Natural Computation (ICNC'11) and the

8th International Conference on Fuzzy Systems and Knowledge Discovery (FSKD'11)

26-28 July 2011

Shanghai, China

All papers in conference proceedings will be indexed by both EI Compendex and ISTP, as well as included in the IEEE Xplore (IEEE Conference Record Number for ICNC'11: 18082; IEEE Conference Record Number for FSKD'11: 18083). Extended versions of selected best papers will appear in an ICNC-FSKD special issue of International Journal of Intelligent Systems, an SCI-indexed journal (Impact Factor: 1.194).

ICNC-FSKD is a premier international forum for scientists and researchers to present the state of the art of data mining and intelligent methods inspired from nature, particularly biological, linguistic, and physical systems, with applications to signal processing, design, and more. Previously, the joint conferences in 2005 through 2010 each attracted over 3000 submissions from around the world. ICNC'11-FSKD'11 is technically co-sponsored by the IEEE Circuits and Systems Society. The registration fee of US*D 390 includes proceedings, lunches, dinners, banquet, coffee breaks, and all technical sessions.

For more information, visit the conference web page: http://icnc-fskd.dhu.edu.cn

If you have any questions after visiting the conference web page, please email the secretariat at icnc-fskd@dhu.edu.cn

4th Complex Systems Modelling and Simulation Workshop (CoSMoS 2011)

8th August 2011

Paris, France

http://www.cosmos-research.org/workshops/cosmos-workshop-2011

workshop2011@cosmos-research.org

The 4th workshop on Complex Systems Modelling and Simulation (CoSMoS) will take place as a satellite event of the European Conference on Artificial Life (ECAL11). The CoSMoS workshops series provides a forum for research examining all aspects of the modelling and simulation of complex systems. This year, we will place a special focus on *how complex systems simulations can begin to approach the scale of real-world complex systems*.

The American Society for Cybernetics has great pleasure in announcing a

Conversational Conference on the theme of LISTENING

Richmond, Indiana, USA, 10 to 13 August 2011

We regard listening as the key act that turns talking into conversation. However, we use these words metaphorically, and not just literally: we do not mean to concentrate on the aural senses, but on the idea that it is the recipient who gives meaning to what they hear. This is how they release the potential in a statement made by another into conversation, whether the conversation is in words, acts, gestures, or indeed any other medium of communication. This can lead to the development of understanding of the other so important in human relations (perhaps specially in fields such as psycho-therapy, management, education and music).

Our conference is organised around informal and generous conversations in small groups, but has space for formal paper presentations and performances. We are also inviting experiential workshops. There is a sliding scale of charges. For those attending, there are free add-on events before and after.

Please visit the conference web site at www.asc-cybernetics.org/2011/. Note, applicants for the conference need to fill in a statement of interest. Go to http://www.asc-cybernetics.org/2011/?page_id=69 and click on SIGN UP button in the middle of the text.

MISTA 2011: Call for Papers (Special Session on Systems to Build Systems)

(Multidisciplinary International Scheduling Conference: Theory and Applications)

URL: http://www.mistaconference.org/

9th – 12th August 2011

Arizona, USA

Systems to Build Systems

Sophisticated bespoke systems which are designed by human experts frequently provide successful results in solving specific computationally difficult problems. The expert involvement might still be (in general is) required for the application of such problem tailored systems to unseen problem instances or new/other problem domains. This situation arises due to the substantial range of system design choices such as the values for the system parameters. It is an extremely challenging task for researchers, as well as practitioners, to develop effective decision support systems or search methodologies which are capable of automatically building (selecting/generating/tuning) systems. This special session focuses on hyper-heuristics in scheduling.

Please visit http://www.mistaconference.org/2011/sessions/index.html for more details of this special session, the other special sessions being planned and how to submit a paper (or abstract) to this session.

The 5th International Conference on Management and Service Science (MASS 2011)

August 12-14, 2011

Wuhan, China

All accepted papers will be included in IEEE Xplore and indexed by Ei Compendex and ISTP.

For more information about this conference, please contact: mass@scirp.org <mailto:mass@scirp.org>

IV Congress of ALAS (Latin American Association of Systemics),

GESI (Argentine Association of Systems and Cybernetics)

24th to 27th August 2011

Buenos Aires

ALAS, was re-founded at Cancun, Mexico, during the 49th Annual meeting of ISSS, and had since three international meetings: Buenos Aires, Ibagüe (Colombia) and Mexico DF. The general theme of the Congress will be: A SYSTEMS APPROACH TO THE STRUCTURAL POVERTY IN LATIN AMERICA.

UK Systems Society

Conference 2011

Thursday 1st – Friday 2nd September 2011

St Anne's College, University of Oxford

The Conference Committee invites contributions from Systems thinkers, whether academic or practitioners. Solicited contributions can be in the form of full papers, posters or proposals to organise a pre-event workshop. Particular topics of interest will include for this year, but are not restricted to, the following:

- Pedagogy of Systems and developing Systems skills
- The value of Systems learning for the individual, the organisation and society
- The 'professionalisation' of Systems practice: why, how, what, when
- Systems teaching and training case studies
- Linking Systems research and professional practice with teaching and learning
- Delivering Systems skills below Higher Education

Full papers are invited relating primarily to the areas outlined above.

Contributors who do not wish to submit full papers can consider submitting posters. Posters will be displayed at special sessions during the conference.

For further information, please email: conference 2011@ukss.org.uk

OR53: Systems Thinking Stream

6 - 8 September, 2011

East Midlands Conference Centre (EMCC) in Nottingham

Operational Research (OR), also known as Operations Research or Management Science (OR/MS) is the discipline of applying advanced analytical methods to help make better decisions. The OR Society, with members in 53 countries, provides training, conferences, publications and information to those working in Operational Research. The Society also provides information about Operational Research to interested members of the general public.

The annual conference of the Operational Research Society is taking place between in the UK at the within the University of Nottingham. Details for the Conference can be obtained through http://www.TheORSociety.com.

The Systems Thinking stream focuses on the successful application of systems thinking to complex, real world problems. Examples are invited which demonstrate how system thinking resulted in the effective resolution of problems, or the delivery of improved performance, from a broad range of topics, including high-level policy development, the design, development, delivery and sustainment of complex programmes, and the planning of major organisational change. Case studies may be current or historical.

If you would like to present within this Stream you can do so via the OR website. If you have any questions please do not hesitate to contact the Stream Chairs (details below).

Andrea Lewingdon & Dr Niki Jobson, Joint Systems Department, C126 East Court, Dstl Portsdown West Tel: 023-9221-7898 Emails: alewingdon@dstl.gov.uk or: njjobson@dstl.gov.uk

The Difference that Makes a Difference 2011

7th - 9th September 2011

The Open University, Milton Keynes, UK

The development of information technologies has had a profound impact on modern society, but although talk of information is routine and unproblematic for engineers and technologists, it has been recognised since the early days of digital technologies that there is an uneasy relationship between the engineer's concept of 'information' and wider uses of the word.

As we move further into the 'information age', we need to make the bridge between information of the information technologist and understanding of information in other disciplines. As researchers and practitioners in diverse fields grapple with an understanding of information – what it is, how it can be modelled and tools for coping with it – now more than ever is the time to share insights and bring some clarity and coherence to these differing perspectives.

With an emphasis on interdisciplinary conversation, we are keen to involve as many different people, from as many different disciplines, as possible in presenting and participating in the workshop.

We now invite a wide range of participants to give short (10 minute) presentations on their work as it relates to an understanding of information. There are four main sessions, focused around:

* the philosophical underpinnings of information;

* the scientific understanding of information;

* information as it relates to business, library science, and education;

* the social impact of information.

Abstracts for the short presentations should be sent to abstracts@dtmd2011.info by 17 June 2011. For more information please visit the workshop website: http://www.dtmd2011.info/

Website: http://www.dtmd2011.info/

Registration is free, but must be made through the website.

15th International Congress of Cybernetics and Systems of WOSC

and the 2011 IEEE International Conference on Grey Systems and

Intelligent Services

September 15-18, 2011

Nanjing University of Aeronautics and Astronautics, Nanjing, China

For further information, please contact: http : www.cybsoc.org.wosc

8ème Congrès de l'Union Européenne de Systémique (UES)

October 19-22, 2011

Institut de Sociologie de l'Université Libre de Bruxelles

Avenue Jeanne 44, 1050 Bruxelles, Belgique

For further information: http : //systemica2011.eu/ or email: info@systemica2011.eu

SECTION THREE:
ISSS BUSINESS

NOTICE OF UPCOMING ISSS MEETINGS

The annual membership, council and board meetings willbe held during the annual conference at The University of Hull Business School, July 17-22, 2011.

Minutes of 2010 ISSS Board of Directors Meeting

Waterloo Ontario Canada, July 18, 2010

Present:

Ockie Bosch	VP Systems Education & Communication
Todd Bowers	Treasurer
Debora Hammond	Representative of the Board of Trustees
Pamela Henning	VP Protocol/Secretary
David Ing	VP Research/President Elect
Eric Ing	VP Conference Organization
Allenna Leonard	President
Nicholas Magliocca	Student SIG Chair
Janet Singer	VP Research Elect
Jennifer Wilby	President Elect 2010/2011
Absent:	
Timothy Allen	Past-President
Doreen Gibbs	VP Administration

Allenna Leonard called the meeting to order at 6:00pm.

Announcements and General Information:

Ratification of Elections:

Jennifer Wilby reported that the following people were elected to these Board positions: President Elect David Ing; VP Research & Publications Janet Singer; VP Protocol & Secretary Pamela Henning.

Proposed Society Budget 2010/2011

Jennifer Wilby proposed a variable budget (contingent on membership numbers in the year ahead) as in the past. Membership numbers have been steady in recent years (around 300 members).

2010 Conference Update

This year's conference has 112 registrants – Jennifer Wilby is hopeful that the conference will break even this year. Allenna Leonard reported being pleased at how the conference was unfolding as of the meeting's date.

2011 Conference Plans

Jennifer Wilby proposes that the 2011 conference be held at the University of Hull in the UK in the third week of July. Rooms and audio-visual equipment will be contributed by the University. Jennifer is developing a conference theme, considering issues of interdisciplinarity, people, principles, and practice.

Proposed Nomination of VP Membership/Conferences 2010/2011

Jennifer Wilby suggested that Joanne Tippett (at Manchester University) has done great work on behalf of the UK systems society. She knows the community well, and would be able to market the conference and bring members into the Society as a result.

6. SIG Status – Disbanded/Ratified

Jennifer Wilby proposed that the Aging Systems SIG be disbanded for lack of activity.

10. Other Business

Reflecting on the current number of ISSS members, Ockie Bosch spoke of wanting to spread word of the value of ISSS to other faculties at his school, and more broadly, to make systems more mainstream. Nick Magliocca commented on the difficulty in articulating what is the value of ISSS, given its diversity of methodologies and interests of its members.

The following agenda items were tabled:

7. Web Admin Report/Issues

8. Publications

9. Strategy Committee Formation and Plans

Motions:

1. Debora Hammond moved approval of agenda. Janet Singer seconded. Motion unanimously passed.
2. Jennifer Wilby moved approval of minutes – Debora Hammond seconded. Motion unanimously passed.
3. Debora Hammond moved ratification of elected members. Allenna Leonard seconded. Motion unanimously passed.
4. Jennifer Wilby moved that the proposed 2010/2011 budget be passed. Pamela Henning seconded. Motion unanimously passed.
5. Debora Hammond moved that the 2011 conference be held at the University of Hull. Allenna Leonard seconded. Motion unanimously passed.
6. Jennifer Wilby proposed that the SIG on Aging Systems be disbanded. David Ing seconded. Motion unanimously passed.

Meeting adjourned at 7:45 pm.

Minutes of 2010 ISSS Council Meeting

Waterloo Ontario Canada, July 21, 2010

Present:

Ockie Bosch	VP Systems Education/Communication
Todd Bowers	Treasurer
Dennis Finlayson	Systemic Approaches to Conflict & Crises SIG
Sue Gabriele	Roundtable SIG
Debora Hammond	Board of Trustees
Tamar Zohar Harel	Systems & Mental Health SIG
Pamela Henning	VP Protocol/Secretary; Systems & Mental Health SIG
David Ing	VP Research/Publications
Louis Klein	Systems Applications in Business & Industry SIG
Alexander Laszlo	Evolutionary Development SIG
Kathia Laszlo	Evolutionary Development SIG
Allenna Leonard	President
Nicholas Magliocca	Student SIG
Gary Metcalf	Board of Trustees
Ignacio Peon	ALAS (Latin America Systems Association)

Judith Rosen	What is Life & Living SIG
Shankar Sankaran	Human Systems Inquiry SIG
James Simms	Living Systems Analysis SIG
Janet Singer	VP Research/Publications; Systems Modeling/Simulation SIG
Jennifer Wilby	President-Elect
Thomas Wong	Health & Systems Thinking SIG

Allenna Leonard called the meeting to order at 7:40pm.

Announcements and General Information:

Ratification of Budget:

Jennifer Wilby reported that the budget is based on cost/member, as per usual for the society. Debora Hammond pointed out that this is the budget for Society operations, not for the annual conference.

Ratification of New Board Members:

Allenna Leonard reported that the following new Board Members had been elected by the membership: David Ing President Elect; Janet Singer VP Research/Publications; Pamela Henning VP Protocol/Secretary.

2011 Conference

Jennifer Wilby reported that next year's conference is to be held in the UK at the University of Hull in the third week of July.

Election of VP Membership & Conferences for 2011

Jennifer Wilby proposed that Louis Klein be nominated to the role of VP Membership & Conferences for 2011.

SIGs Report

Tamar Zohar Harel, Shankar Sankaran, and Louis Klein (Mental Health, Human Systems Inquiry, and SABI SIGs) want to propose a tri-SIG track in 2011, giving presenters an opportunity to present papers in either their single SIGs or the combined 3-SIG session (which will be designed to address the intersection of issues pertinent to those 3 particular SIGs).

Kathia Laszlo recommended that at the start of each conference SIG chairs should come together in dialogue in a Fishbowl or other format (similar to this year).

Alexander Laszlo suggested that SIG chairs be tasked to ask their constituents to address in some way the conference theme in their papers and/or in group dialogue during the course of next year's conference, and report back on the theme of the conference on its last day.

Alexander Laszlo raised the possibility of interactive/collaborative workshops facilitated by leading systems thinkers/practitioners tasked to address specific global concerns in a real-time, interactive format during the conference. He spoke of the value a project-oriented, action-learning, participative research process could bring to people beyond members of ISSS itself. Louis Klein noted that the Society contains a wealth of experts who could lead such processes. Ockie Bosch spoke of learning lab/problem solving processes used at the University of Queensland with clients from third-world countries to address real-world problems that could be utilized through the duration of the conference setting. Denis Finlayson suggest that this could be a task of the Student SIG. Todd Bowers made logistical/scheduling suggestions for SIGs working on a collaborative problem together. Tamar Zohar Harel recommended a sequence along the lines of a pre-conference training/learning initiative for people in the field, a student training session at the start of the conference, followed by (some days later) a process to get the SIGs involved.

Sue Gabriele reported that 8-9 people have been attending the morning Roundtables at this year's conference.

Nicholas Magliocca discussed the Student SIG's wish to set up an introductory online portal for students to make posts, meeting a need for systems education, connecting students with systems experts/mentors, and recruiting new systems thinkers to our Society. Debora Hammond has agreed to work with Nicholas on this project. David Ing spoke of the technical platform that already in place that can support this initiative, and also of ISSS Twitter possibilities.

Alexander Laszlo spoke of last year's progressive plenary, which brought in local participants, wondering if that was considered a success worth refining and continuing? Louis Klein requested that people give him feedback on this and other suggestions for next year, which he will incorporate into next year's conference plans.

Jennifer Wilby will send to all Council Members a link to ISSS listservs to facilitate communication among ourselves through the year.

David Ing spoke of an ISSS relationship with INCOSE (the International Council on Systems Engineering). He attended their recent international workshop, along with Gary Metcalf , Len Troncale, and Jennifer Wilby. David reported on a reciprocal arrangement that has been struck whereby two ISSS members will attend the annual INCOSE workshop and two of their members will attend the annual ISSS meeting.

David Ing has videotaped ISSS plenaries for the Sonoma, Brisbane, and Waterloo conferences. He is working on ways to post them on the internet.

David Ing is considering San Jose as a site for the 2012 conference, to leverage the resources of Silicon Valley. Details will be forthcoming.

Janet Singer thanked Judith Rosen for making available to ISSS members her father's (Robert Rosen's) work in e-book format.

Motions:

Jennifer Wilby proposed that the budget be approved. James Simms seconded. Motion unanimously approved.

James Simms moved approval of David Ing for President-Elect, Janet Singer for VP Research/ Publications; Pamela Henning for VP Protocol/Secretary. Debora Hammond seconded. Motion unanimously approved.

Jennifer Wilby moved that Hull University be the site for the 2011 conference. Shankar Sankaran seconded. Motion unanimously approved.

Jennifer Wilby moved that Louis Klein be the VP Membership & Conferences for 2011. Pamela Henning seconded. Motion unanimously approved.

Meeting adjourned at 9:10pm.

Minutes of 2010 ISSS Membership Meeting

Waterloo ON Canada, July 23, 2010

Jennifer Wilby called the meeting to order at 12:20.

Discussion

Jennifer Wilby reported that the past year's bank balance started at $62,700 USD, and ended at $58,200. The budget for the 2010/2011 year has been approved by the Board.

Jennifer Wilbyintroduced the new Board Members: Allenna Leonard (now Past-Present), David Ing (President Elect). Other newly-elected board members include VP Research/Publications Janet Singer, VP Communications Ockie Bosch, VP Funds Todd Bowers, VP Admin Doreen Gibbs, VP Membership Louis Klein, Board of Trustees Representative Debora Hammond, VP Protocol/Secretary Pamela Henning. Jennifer explained that the Board reports to the Council (comprised of 22 Trustees and the Chairs of 24 SIGs).

Juan Arango and Billy Dawson inquired about setting a concrete goal to increase the size of the ISSS membership. Kathia Laszlo suggested that we contact published SRBS authors to join the ISSS. Dennis Finlayson spoke of instead setting a goal to increase the Society's influence, and increased size would be a byproduct. David Ing spoke of a range of conference sizes and how that might influence the character of the conference, arguing that it would be fruitful to decouple the discussion of membership size from discussion of the size of annual meetings. An effort to extend ISSS influence via strengthening connections with other systems groups was discussed. Louis Klein spoke of wanting to look at both numbers and the quality of the membership – what it means to be a member of the society, activity level, etc. He wants to analyze these issues and engage in dialogue with ISSS members about them. Shankar Sankaran and

Leonie Solomons recommended an analysis of the current membership demographics/structure/etc. as an information source in this discussion.

Leonie Solomons inquired about the practice of holding the meeting in North America every second year. Jennifer Wilby indicated that no formal rule exists, but the practice has evolved to get as many meeting participants attending as possible, and that frequently setting the meeting in North America assists that goal.

At Leonie Solomons' request, Jennifer Wilby explained that a Regular Membership costs $115. $45 of this goes toward a subscription to *Systems Research and Behavioral Science*, $50 toward office expenses, and $10 toward the Society's electronic infrastructure. Other categories of membership have similar breakdowns.

Dennis Finlayson asked about whether or not members have the right to represent the ISSS. Jennifer Wilby explained that the only person who can bind the Society legally is whomever holds the office of VP Administration. Pamela Henning noted this as an action item for discussion at the next board meeting.

Jennifer Wilby adjourned the meeting at 12:45.

CASH ACCOUNTS ISSS

Financial Year 2010 (January - December)

(US Dollars)

Beginning January 1 2010			$ 58,258.52
Income			
Memberships	9,920.70		
Conf. Memberships	8,395.00		
SIG contributions	210.00		
Conference Income	560.70	19,086.40	$ 77,344.92
Expenses			
Bank charges	171.73		
Journals	11,855.22		
IFSR 2 years fees	294.40		
Bulletin and printing	1,578.51		
Phone calls	73.60		
Postage	647.55		
Office costs	667.26		
Office stipend	5,294.88		
2009 Conference costs	1,015.00		
Internet/Computing/Web Costs	3,253.15		
Tennessee Registration	46.90		
Travel	8.64		
		24,906.84	
Ending December 31 2010			$ 52,438.08
US Checking		47,752.06	
UK Sterling		4,686.02	
Ending December 31 2010			$ 52,438.08

ISSS2010

WILFRID LAURIER CONFERENCE FINANCIAL REPORT

Within financial year 2010 (Jan-Dec)

DEPOSITS / REFUNDS	
Brisbane Registration Fees	$ 44,907.50
Office registration fees	703.25
Cash received at Conference	620.00
TOTAL DEPOSIT/REFUNDS:	$ 46,230.75
DISBURSEMENTS	
ISSS Memberships	8,395.00
SIG Contributions	210.00
CDROM Proceedings	2,328.37
Wilfrid Laurier Disbursements (Catering, Printing, Office Supplies)	21,317.10
Speaker Costs paid by Office	4,493.50
Local organising costs	3,013.68
Planning visits	1,624.91
M/C, Visa Service Charge	2,347.69
Vickers award and plaque	665.00
Miscellaneous Supplies & Services	687.95
Insurance	586.85
TOTAL DISBURSEMENTS:	$45,670.05
NET PROFIT/LOSS:	$ 560.70

SIG ANNUAL REPORTS: List of Active SIGs and (Report Received)

Agent- based Social Systems (NO)
Aging Systems (NO)
Balancing Individualism and Collectivism (NO)
Critical Systems Theory and Practice (NO)
Designing Educational Systems (NO)
Evolutionary Development (NO)
Health and Systems Thinking (NO)
Hierarchy Theory (NO)
Human Systems Inquiry (NO)
Information Systems Design and Information Technology (NO)
ISSS Roundtable (NO)
Living Systems Analysis (NO)
Organizational Transformation and Social Change (NO)
Research Towards a General Theory of Systems (NO)
Socio-ecological Systems (NO)
Spiritualty and Systems (NO)
Student SIG (NO)
Systemic Approaches to Conflict and Crises (NO)
Systems Applications in Business Industry (NO)
Systems Biology and Evolution (NO)
Systems and Mental Healh (NO)
Systems Pathology (NO)
What is Life and Living (NO)

SECTION FOUR:
MEMBERS' BULLETIN BOARD

SCIENCE AND HUMAN RIGHTS

Stuart Umpleby

On January 11, 2011, I attended a meeting of the Coalition on Science and Human Rights of the American Association for the Advancement of Science (AAAS). AAAS publishes Science magazine, and the headquarters are in Washington, DC. AAAS has individual members and affiliated societies. Science policy issues, such as population growth, climate change, and stem cell research, are discussed at its conferences. The Coalition on Science and Human Rights is working to define how scientists can contribute to progress on human rights. Most of the conversation concerned examples of what some groups of scientists are doing, and there was the suggestion that other groups of scientists think about what they could contribute.

The meeting began with some presentations on Haiti. Some points that were made by panelists were: There has been little science education in Haiti. Haiti has weak science associations. US aid (e.g., gifts of rice) aided farmers in Arkansas (increased demand and hence price) but not farmers in Haiti. The gifts of rice lowered the price of rice grown by Haitian farmers and hence made their circumstances worse.

Satellite photos showed where the earthquake damage was. Street maps of Haitian towns and cities were poor but were rapidly improved via crowd sourcing. People used the internet to help people locate their relatives. A system for transferring money via cell phones was developed, thereby eliminating corrupt middlemen. A similar system had been developed for paying soldiers in the Afgan army.

“Open innovation” is an alternative to five year plans. There is a great increase in the number of problem solvers. It is possible now to more easily capture and share existing knowledge and solutions.

There was discussion of adding a human right to development (a right to knowledge, to a decent standard of living, to a clean environment) to the Universal Declaration of Human Rights and to making such a right a part of U.S. foreign policy. Some people spoke of a right to benefit from scientific advance. Finland has adopted a right to broad band web access.

Statisticians without Borders conducted a survey in Haiti to find out what people’s needs were. They used cell phones. People answer cell phone calls because there is no charge for the person answering a call. 83% of men and 67% of women have cell phones. They found that the houses of the rich were largely unaffected by the quake, but the houses of the poor collapsed. There were no cholera cases in Haiti prior to the quake.

A group called Digital Democracy reported on their human rights work in Burma. They mapped violent incidents. In Haiti they asked, Whose voices are missing? Their answer was that women were not fully represented in conversations about disaster response. In Haiti rape is treated as a crime of honor. The man pays a small fine or marries the woman. There was an epidemic of rape in the camps after the quake. There was a lack of response from all levels of society. Tents have no doors that can be locked. The group distributed whistles that women wore around their necks. The group focused on lighting and security patrols to reduce rape. Solar panel flash lights were distributed.

In one panel the contribution of scientists was said to be bringing objective information to emotional situations.

There are human rights issues in resource rich countries. People think their lives will get better if oil or some mineral is discovered. But usually their lives get worse. Water is polluted or is diverted. Wells go dry or are contaminated. The quality, availability or accessibility of water is often reduced. Scientists can help Human Rights lawyers as expert witnesses. Scientists understand industry standards. They know what a company can do to protect the environment and what it cannot do. Scientists can provide examples from other countries. “Without data you are just another person with an opinion.” Scientists can provide data.

One group worked on the health care problems of women in Washington, DC, jails.

Social scientists can contribute to human rights in various ways. Does a reform program work? Program evaluation studies can aid the policy process. Social scientists can collect and organize data, map it and graph it to present to administrators and policy makers. Discussion groups can be organized to empower people. Scientists can provide advice or advocate for a neglected group of people.

Scientific associations can increase their involvement in human rights work by organizing a human rights track at their annual meetings. Simply suggest that working on human rights is an activity that members might want to engage in.

NEW BOOKS

Forensic DNA Evidence on Trial: Science and Uncertainty in the Courtroom

Victoria Grace, Gerald Midgley, Johanna Veth & Annabel Ahuriri-Driscoll

When juries hear forensic DNA evidence presented in court, what does it mean to them? And does it mean the same for police officers, lawyers and forensic scientists? If jurors, scientists and others have fundamentally different understandings of DNA evidence, what are the implications for criminal justice? This original book asks and answers these challenging questions. Drawing upon their own ground-breaking research, the authors demonstrate that major assumptions about science influence how forensic DNA evidence is interpreted. Forensic scientists appreciate that there is always an element of uncertainty involved in the production of scientific evidence, but this comes as a rude awakening to most jurors who have their faith in the certainty of science undermined. As a result, jurors can become confused and make errors— sometimes overrating and sometimes underrating the value of DNA evidence when deciding on guilt or innocence. This clearly has significance for the role of such evidence in criminal justice. While some people working in the criminal justice system would prefer scientists to hide uncertainty, the authors of this book mount a robust case for both juries and lawyers becoming better informed about the inevitable uncertainties of science.

[This book] promises to be a major contribution not only to scholarly debates in this field but also to current political and ethical discussions on the use, and the regulation of use, of forensic DNA technologies in many different countries across the globe.

Barbara Prainsack Reader in Medicine Science and Society, Kings College, London

This innovative collaboration between social and forensic scientists enriches our knowledge of how statistical reasoning—essential to the evaluation of scientific evidence—is variously understood by the lawyers and laypersons who may encounter it in court. The book provides a critique of taken-for-granted assumptions concerning the nature and role of science in criminal trials and the more general relationship between scientific, ‘commonsense’ and legal discourses.

Robin Williams Professor of Forensic Science Studies, Northumbria University Centre for Forensic Science

2011, ISBN 9780984216543 (100 pages) SOFTBACK 5″ × 8″: US$14.95, Emergent Publications.

Making Sense of The Learning Organization: What is it and who needs it?

Anders Örtenblad

“Learning organization” is one of those concepts that have come to mean everything and thus nothing. Nevertheless, it is a frequently used concept. This book offers a comprehensible guide to what is meant by the term “learning organization”. It provides an overview of the learning organization and organizational learning fields.

This book is relevant for anyone with an interest in the learning organization that goes beyond trivialities. It is suitable for all levels of higher education in any subject in which the learning organization (or organizational learning) is offered, such as business administration, psychology, sociology, pedagogy, etc. However, the use of the book should not be limited only as university reference. Indeed, it fits in any context in which learning organization is discussed.