CONFERENCE ANNOUNCEMENTS

FIFTH ANNUAL INTERNATIONAL CONFERENCE OF THE SOCIETY--AUGUST 8-12, ADELPHI UNIVERSITY, GARDEN CITY, NY
(SEE PAGES 4-5)

THE SELF-ORGANIZING PSYCHE: NONLINEAR CONTRIBUTIONS TO PSYCHOANALYSIS--MAY 19-21, MOHONK MOUNTAIN HOUSE, NEW PALTZ, NY

CONTENTS:

FEATURE ARTICLE: IS IT OR ISN'T IT? STRANGE-ATTRACTOR CHAOS FROM EXPERIMENTAL TIME SERIES

Wally Pritchard, Ph.D., Senior Staff Scientist: Psychophysiology Laboratory, Bowman Gray Tech. Center, RJR Reynolds Tobacco Company, Winston Salem, NC 27102

How to provide evidence that a given time series of experimental data is generated by a low-dimensional, chaotic system of the strange-attractor type? This process has grown increasingly complex in recent years, although one leading approach where long data records are available has continued to rely on estimating the correlation dimension of the series using the Grassberger-Procaccia (GP) or a similar algorithm such as Takens-Ellner (see Pritchard & Duke, 1992a, for a review).

Generally, when GP is applied to a given experimental time series, one gets a non-integer number as output. Such a 'fractional' value is *not* proof that the state-space trajectory of the system is fractal -- size and other limitations invariably associated with real-world data virtually guarantee that the number output by GP is not accurate in an absolute sense (Pritchard & Duke, 1992a).

It was originally 'hoped' that *saturation* of GP dimension estimates was 'proof' of strange-attractor chaos. Saturation refers to a leveling-off of estimated correlation dimension as the size of the embedding dimension (number of delay-time lags employed to reconstruct state-space vectors plus 1) is increased. However, so-called 1/f-like, colored (linearly correlated) 'noise' can 'fool' GP and give 'false saturation' (f = frequency). 1/f-like noises have power spectra that scale as $1/f^{\infty}$, where œ is greater than zero (œ = zero is white noise, which has no autocorrelation). An example of a colored noise (with œ = 2) is Brownian motion (e.g., the 'random walk' $x_{t+1} = x_t + Æ_t$ [where $Æ_t$ is white noise], which has a fractal-like, self-similar temporal structure but is nonstationary in both mean and variance).

As a result, providing evidence for strange-attractor chaos requires additional steps, a leading one being so-called *surrogate data testing*. The leading surrogate-data procedure is phase-angle randomization. GP is run on the original time series. The time series is then Fourier transformed, and the phase angles are randomized (e.g., randomly shuffled, replaced by random numbers, etc.). A reverse Fourier transform then produces a time series having (essentially) the same power spectrum as the original but from which nonlinearity has been removed.

BOOK REVIEW ESSAY: Radical Constructivism, Chaos Theory, and Psychotherapy: The "Emperor's New Clothes"?

Ray Hawkins, Ph.D. 1515 West 30th Street Austin, TX 78703

The Reframing of Performance Anxiety: A Constructivist View by Joan S. Ingalls (Port Jefferson, NY: Mind Plus Miracle, 1994, $21.95 US) is a short paperback (168 pages) which should both inform and provoke "healthy chaos" in the minds of Society readers, whether they are scientists or clinicians. Dr. Ingalls' book provides a clear and concise overview of radical constructivist theory (RCT) (cf., Varela, Thompson & Rosch, 1993) as applied to psychotherapy. According to RCT, there is no unitary, objective "self." Human experience is embodied and emergent. "Humans exist in a network of a self-reflexive groundless language. They know only the perturbations of their sensory awareness." (Ingalls, 1994).

The author, a sports psychologist, does not attempt to "fix" her client, a middle-aged skater with performance anxiety. Dr. Ingalls instead utilizes a four-step reframe

BOOK REVIEW ESSAY (CONTINUED)

(adapted from Neuro-Linguistic Programming, but reconceptualized as structural coupling and second-order cybernetics) to "perturb" her client's experience of anxiety, depression, and creative potential. A transcript with commentary is provided to assist the reader in tracking this reframe and its metatheory.

Dr. Ingalls cites chaos theory as "another element in the constructivist model" (p. 10).Referring to the "chaotic nervous system" by which momentarily "a single perturbation is absorbed" and "systems spontaneously and chaotically spring in and out of existence" (p. 10), the author is obviously describing nonlinear dynamics and the inherent unpredictability of the phenomena of interest. Note the following quote, however, which suggests some confusion, or at least imprecision, in how chaos theory (CT) is used metaphorically: "With the appearance of chaos theory, and structural deter-minism, there was a shift from circular causality to chaos, from the informational openness of a family system to the informational closedness of the individual, from objective reality to groundlessness"(p. 15). The distinction between RCT and CT appears blurred.

I recall the fable of the "emperor's new clothes." Is The Reframing of Performance Anxiety: A Constructivist View a thoughtful application of chaos theory to a psychothera-peutic case, as called for by Butz (1993) and Barton (1994)? Or may the transcript be construed via a causal, linear model (p. 51) cloaked in the benignly manipulative "magic" of Neuro-Linguistic Programming? Posing the question in the form of a fable reveals the underlying paradox and relativism. I would recommend that this book be read in conjunction with Bohm & Peat (1987), Katakis (1989), and Mahoney (1991).
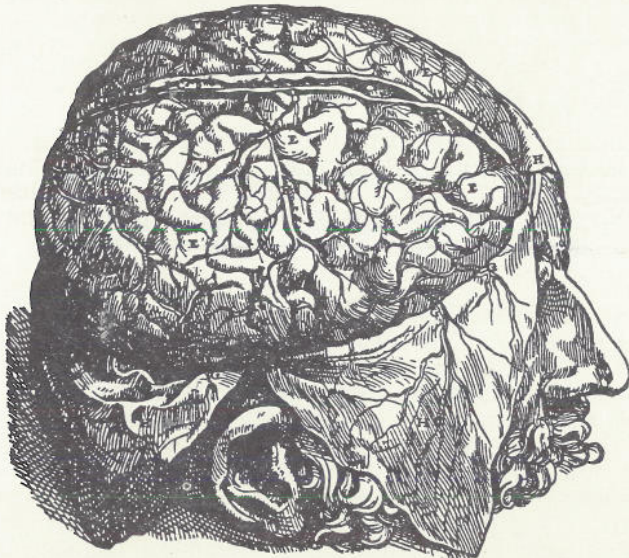
"STRANGE ATTRACTOR CHAOS" (CONTINUED)

GP is then run on the surrogate series -- if estimated dimension goes up and saturation is poorer, this indicates that the dynamics of the original time series is nonlinear, either low-dimensional (deterministic strange-attractor chaos) or high-dimensional (stochastic, strange-attractor chaotic, or some other type of chaos [e.g., the intermittency route]-- there may be no way to tell from limited experimental data]. If estimated dimension goes up and formerly complete saturation is lost, then this indicates low-dimensional, strange-attractor chaotic dynamics. A recent application of this procedure to a large electroencephalo-graphic (EEG) data set indicated that the normal, resting human EEG is nonlinear but not low-dimensional chaos (Pritchard, Duke, & Krieble, in press).

But the situation is even more complicated than that! Rather than continuing deeper and deeper into the jungle of strange-attractor chaos 'proof', I refer the reader to a nice article by H. Isliker and A. O. Benz titled Nonlinear properties of the dynamics of bursts and flares in the solar and stellar coronae. Don't let the title throw you -- the article contains an excellent overview of the problems associated with dimension estimation as well as a systematic series of steps that should be taken to provide evidence for strange-attractor chaos. These step are, briefly, [1] using the autocorrelation function to show that the number of 'structures' or 'peaks' in the data is > 50, which allows dimensions up to 3.5 to be reliably estimated; [2] showing that the noise level is < 10%; [3] testing for stationarity; [4] seeing if GP saturates [it must saturate both for the original GP as well as for a data window (total time interval spanned by the reconstructed state vectors) on the order of N/2, where N is the number of data points]; [5] testing for intermittency, and if it is present, still obtaining GP saturation when the 'quiet' portions of the data are omitted; [6] doing the surrogate-data test (see above); [7] seeing if a different dimension-estimation algorithm gives the same result for steps 1-6; and [8] formally testing for good scaling and saturation properties. If you get through all that, then you have provided strong evidence that your time series is a low-dimensional, chaotic process of the strange-attractor type.

The copy of Isliker and Benz that I have is a preprint listed as 'in press' in Astronomy and Astrophysics -- whether it has come out or not yet, I don't know. A copy can be obtained from: H. Isliker, Institute of Astronomy, ETH-Zentrum, CH-8092, Switzerland.

A final note: Again, the numbers output by GP are not absolutely accurate, and without doing the above (rather complicated) procedure, do not indicate strange-attractor chaos. However, a 'simple' GP of experimental data does give a useful index of the complexity of the dynamics of the series, regardless of the source of the complexity. My colleagues and I have found 'dimensional complexity' (GP without all the chaos-proof stuff) to be extremely useful in making relative comparisons among experimental conditions and groups (see references).

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ADDRESS CORRECTION: NEW AREA CONTACT PERSON: PSYCHOSOMATIC MEDICINE

Dr. Franco Orsucci, MD, Via Monte delle Gioie 22, 1-00199 Rome, Italy

Tel & fax: 396 /86.32.43.01; email: MC5461@mcilink.it

"YOU MUST BE A CHAOS TO GIVE BIRTH TO A DANCING STAR" NIETZSCHE © T. ZAUSNER 1989/1990
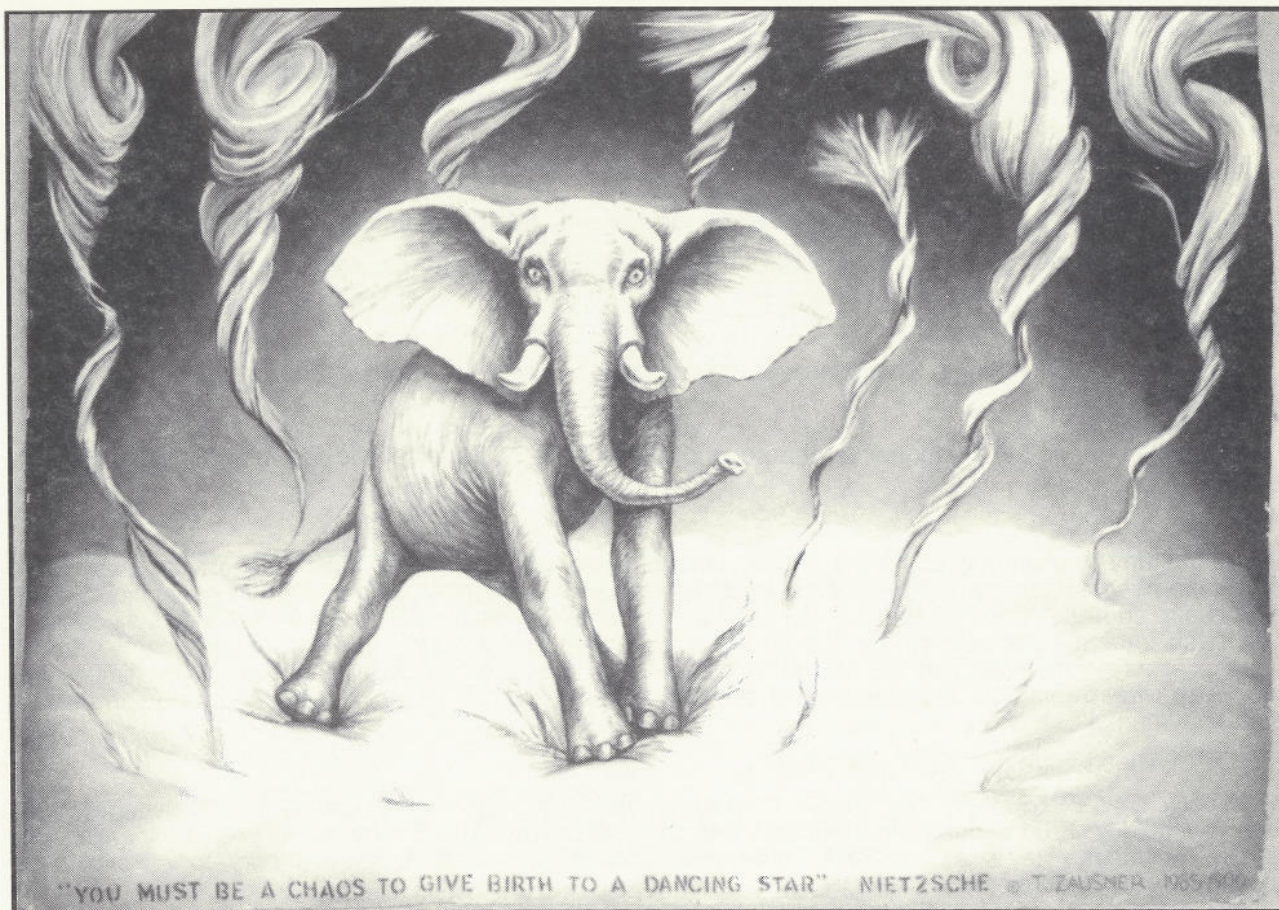
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Tobi Zausner, Ph.D. The Zausner Studio 137 East 38 Street, 6J NY, NY 10016 Phone: (212) 686-5272

FIFTH ANNUAL INTERNATIONAL CONFERENCE--THE SOCIETY FOR CHAOS THEORY IN PSYCHOLOGY AND THE LIFE SCIENCES
AUGUST 8-12, 1995
Adelphi University, Garden City, New York

CALL FOR PAPERS, WORKSHOP DESCRIPTIONS, AND REGISTRATION

Call for Papers in: Nonlinear Dynamics; Chaos Theory; Complexity Theory; Complex, Adaptive Systems Theory; Neural Nets; Cellular Automata; Artificial Life; Fractals; Far-from-equilibrium Thermodynamics; The New Evolutionary/ Ecological Paradigm.

Covering: All the various psychological disciplines, neuroscience, biology, physiology and other areas of medical research, economics, sociology, anthropology, physics, mathematics, political science, business and management, education, art, philosophy, political science, and literature.

In keeping with past practice, this conference will precede the APA Annual Conference starting August 11 in New York City. The Fifth Annual Conference will take place on the campus of Adelphi University located in the Long Island suburbs of New York City, near a commuter railroad only 30 minutes from Manhattan. JFK Airport is 20 minutes away by car, and La Guardia Airport is only 30 minutes by car. In addition to all of the hotels of Manhattan, please note that Adelphi will also be providing very inexpensive room and board.

There will be two keynote addresses. We are in the process of arranging these events and a future announcement will identify the speakers. Also, there will be four workshops, introductory and more advanced (See descriptions below and on the next page).

ABSTRACTS:

Please send a 250 word abstract by May 15, 1995 to:

Prof. Stephen Guastello, Ph.D., Department of Psychology Marquette University, Milwaukee, Wisconsin 53233 USA email: 6155GUASTELL@vms.csd.mu.edu phone: (414) 288-7218: fax: (414) 288-5333

COSTS:

Conference Registration Fee:

$110.00 for members; $145.00 for nonmembers; $65.00 for students. (Membership is $25.00 per year).

Some scholarships will be available for students in exchange for working in the registration booth and other tasks during the conference.

Room and Board:

$21.00 per person per night---Single Occupancy; $25.00 per person per night---Double Occupancy

Meals: $50.00 for three days.

Please note that there will be a banquet on the second night of the conference, the fee for which is included in the registration fee.

Workshops:

$ 110.00 for full-day workshops; additional $25.00 for workshop with Fred Abraham for computer use; $75.00 for students. [Make checks payable to The Society for Chaos Theory in Psychology and the Life Sciences and send to Jeffrey Goldstein, address of newsletter. Unfortunately we can only accept checks drawn on US banks since it costs us $25.00 for each foreign bank deposit that we are able to deposit and we are unable to deposit checks from many foreign banks at all. Remember that we are not a business, simply a professional association with limited financial resources. Also, we do not accept credit card payments--see page 3 of this newsletter for information about international payments].

WORKSHOPS: Tuesday, August 8; 9AM-4:30 PM

1. *DYNAMICAL CONCEPTS IN PSYCHOLOGY.* Fred Abraham, Ph.D., author of An Introduction to Dynamical Systems Theory for Psychology. Fred is one of the founders and past-president of the Society for Chaos Theory in Psychology and the Life Sciences. He is a pioneer in the application of dynamical systems theory to psychological and neuroscience research and theory.

This will be a fairly introductory workshop focussing on basic concepts of dynamics and their application to psychological theory and research. It is felt that these basic concepts are central not only to using dynamics, but to moving on to other related topics in comlexity analysis, some of which will be mentioned albeit rather briefly. Hands-on computer experience will be utilized to explore simple properties of dynamics, attractor types, separatrices and basins, dimension, spectra, etc., for known low-dimensional atractors such as the prey-predator, van der Pol, logistic, Henon, Rossler, Lorenz, etc; and for empirical data sets. The emphasis will be on understanding the basic principles of attractors, bifurcations, and stability. Fluency in math is not required--it is intended as an introduction.

WORKSHOPS (CONTINUED):

2. *CHAOS AND CREATIVITY.* Stephen Guastello, Ph.D., Department of Psychology; Marquette University. Steve's published work on nonlinear dynamics dates from 1981, and is the author of the forthcoming <u>Chaos, Catastrophes, and Human Affairs.</u>

This workshop explores the role of nonlinear dynamics and self-organization in the creative process, including scientific, artistic, business, and other domains. Program features exercises for enhancing creativity in individuals, groups, and organizations which capitalize on chaotic or dynamic processes. Exercises are organized in a graduated series from elementary skills to complex problem solving. Participants are encouraged to bring problems that they would like to work on, such as chaos modeling for a research project, methods for enhancing creativity in a group with which they work reguarly, or some other problem requiring creative input. Updates on the latest research developments are also included.

3. *AWAKENING 101.* Sally J. Goerner, Ph.D. is on the scientific advisory board of The European Academy of Evolution Research. With advanced degrees in both computer science and psychology, her publications include the 1994 book, <u>Chaos and the Evolving Ecological Universe</u>.

Chaos and Complexity are best understood as new insights into the way interdependence produces pattern, structure, and organization. If one understands them this way, it become obvious that they are but a small part of a vast cultural shift emerging in human endeavors from education to government, in academic fields from biology to economics and which connects with a vast array of long-standing spiritual and philosophic traditions. The implication is that western civilization is undergoing a comprehensive transformation exactly like one that happened 300 years ago. That change produced the *Enlightenment,* materialist mechanistic science, and the clockwork sense of the universe. The current change is producing science centered on interdependence, a detailed understanding of the world as an intricate interdependent web and an *Awakening* from what seems to have been a long dogmatic mechanistic slumber. This course provides a concrete, common sense tour of the science, sociology, economics and spirituality of the post-clockwork universe. We will discuss why clockwork thinking will end and how Chaos/Complexity clarifes the change.

WORKSHOP; Saturday, August 12; 9AM-4:30 PM

4. *INTRODUCTION TO COLLECTIVE INTELLIGENCE.* William Sulis, MD, Ph.D., McMaster University. Bill has a fellowship in Geriatric Psychiatry and a Ph.D. in Mathematics, and teaches courses in Nonlinear Dynamics, Complex Systems Theory, and Geriatric Psychiatry. He divides his time between a clinical practice, teaching, and research in Complex Systems and Artifical Life.

The study of collective intelligence has been a major facet of entomological research for many years and has been embraced by the artificial life community as a promising alternative to both conventional and connectionist approaches to the understanding and generation of intelligent behaviour. This workshop provides an introductory survey of the empirical evidence upon which the concept is founded and some of the experimental and theoretical approaches being currently undertaken in order to study it.

Part 1: Empirical Background: Collective organisms- slime molds, collective intelligences- social insects: ants, wasps, bees. Stigmergy, decentralized control. Collective behaviour- swarms, mobs, crowds, societies, economies

Part 2: Experimental and Theoretical Approaches: Collective robotics, behaviour-based robotics, cellular automata, statistical mechanical theories of swarms, the pattern landscapes.

REGISTRATION FORMS FOR CONFERENCE AND WORKSHOPS:

(send to Jeffrey Goldstein, Ph.D., address of newsletter)

CONFERENCE:

Name:_____

Address:_____

_____

Phone:_____ Fax: _____ Email:_____

University Affiliation (if any):_____

Presentation Title (if submitted to Steve Guastello):_____

WORKSHOPS:

Workshop Title:_____

Name: _____

Address:_____

_____

Phone:_____ Fax:_____ Email:_____

University Affiliation (if any): _____

ANNOUNCEMENTS OF BOOKS AND ARTICLES BY SOCIETY MEMBERS

Ingalls, Joan, The Reframing of Performance Anxiety: A Constructivist View (Publisher: Mind Plus Muscle, P.O. Box 589, East Setauket, NY 11733; 1-800-663-1492, Ext 415; $21.95 plus $4.50 shipping and handling; NY residents add tax of $1.89).

King, Ian. Explorations Beyond the Machine: A Philosophy of Social Science for the Post-Newtonian Age (Commack, NY: Nova Science Publishers, Inc. ISBN: 1-56072-155-3). This book examines the implications for the social science of the philosophies of quantum mechanics, evolutionary biology, as well as chaos theory and the sciences of complexity in general. The author is Associate Professor of Political Science, Hendrix College, Conway, Arkansas.
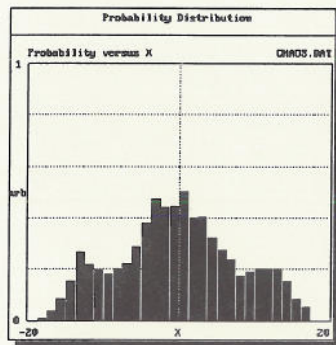
Krippner, Stanley. Humanistic Psychology and Chaos Theory: The Third Revolution and the The Third Force. Journal of Humanistic Psychology, Vol. 34, No. 3, Summer, 1994: 48-61.

Special issues of the journal Counseling & Values, edited by Lyle J. White & M. Harry Daniels, January 23rd and April 4th, 1995. Provided by: Lyle J. White, Dept of Ed Psych & Sp Ed, Southern Illinois University, Carbondale, IL 62901-4618; Fax: (618) 453-7110; Voice: (618) 453-6926; Email: ga4133@siucvmb.siu.edu

January 23: Linda Chamberlain, "Chaos and change in a suicidal family;" Cecile Brennan, "Beyond theory and practice: A postmodern perspective;" Michael R. Butz, "Chaos theory, philosophically old, scientifically new;" H. B. Gelatt, "Chaos and compassion;" Michael P. Wilbur, Jonna M. Kulikowich, Janice Roberts-Wilbur, & Edil Torres-Rivera, "Chaos theory and counselor training;"

April 4: Catherine J. Brack, Greg Brack, & Andrea Zucker, "How chaos and complexity theory can help counselors be more effective;" Mark J. Miller, "A case for uncertainty in career counseling."

FTP SITE AT META NETWORK

Submitted by Stephen Guastello, Marquette University

Chaos/Complexity researchers on the CHAOPSYC list may be looking for a suitable FTP site from which to distribute their papers. There are some folks with their own sites, world-wide-web pages and the like, but there is also some advantage to hanging the paper out on a system where browsers are likely to browse.

With that in mind, the MetaNetwork's system is available for your use. The site is looking to collect papers on both chaos/complexity topics and sustainable economic or ecological development. As with other sites, papers of temporary value can be removed at the authors'request. The site contents are relatively small right now, but papers are starting to collect. All new documents are loaded to the directory <pub/incoming> and then moved to a major directory (Chaos-Complexity in this particular case).

The sites operates on the usual no-charge basis using anonymous login procedure. To access do: FTP ftp.tmn.com, and follow the prompt. MetaNetwork can also be contacted by <gopher.tmn.com>, and has just established a WWW connection.

We imagine that a second-level directory structure may evolve in the following fashion:

Chaos-Complexity bioscience =chaos theory applied to biological, epidemiological or brain processes, etc. indiv =chaos theory applied to individual-level psychology org =chaos theory applied to groups and organizations econ =chaos theory applied to economics (macro, micro, global) ecol =chaos theory applied to ecological and evoluationary principles numerics =new mathematical or statistical techniques for testing hypotheses concerning nonlinear dynamical systems

SustainabilityNet econ =sustainable development, subtype economics or societal issues ecol =sustainable development, subtype ecological or biological issues techtrans =tranfer of econologically sound technologies, technology and society issues

United-Nations =pertaining to the United Nations program(s) concerning sustainable development/Agenda 21 =other interesting United Nations topics World-Bank =pertaining to activities of the World Bank, International Monetary Fund, or similar institutions' policies

It is conceivable that one document may be categorized into more than one subdirectory named above.

To UPLOAD: CD to subdirectory <pub/incoming>. Then do: <put yourfile.name newfile.type> without the brackets. It is preferable that you use the following file name syntax:

authorsurname-titlekeywords.txt

Extension ".txt" refers to an ASCII text file. Other options might be

.ps =postscript .uu =uuencoded .tar =tar compressed .zip =zip compressed .bin =binhex coded MAC file .taruups=tar compressed uuencoded postscript file.

If you are sending a postscript or a .pszip file, please be sure to give the command, <bin> at the FTP prompt. First go to the <incoming> directory, and to <dir> to be sure you are there. Then give the <bin> command. Then give the <put filename.type filename.type> command.If you are unsure of whether your format requires <bin> (ASCII for instance does not), please check with any of the system people before posting; see below.

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Any non-routine problems concerning FTP document uploading or downloading documents should be directed to <scott@tmn.com>.

THANK YOU FOR USING THE META NETWORK SYSTEM!

CALENDAR

Special Session in Ergodic Theory (at AMS Meeting)

March 4-5, 1995; Hartford, Connecticut

Contact: Cesar Silva, Mathematics Department, Williams College, Williamstown, MA 01267; email: csilva@williams.edu

Society for Nonlinear Dynamics and Econometrics

March 17-19, 1995; NY, NY

Meeting in conjunction with the Eastern Economics Association

Call for papers: Contact Ted Jaditz, Bureau of Labor Statistics, Room 3105, 2 Massachusettes Avenue., NE, Washington, DC 20212; email: jaditz@oplc.psb.bls.gov (Bitnet) xt3@nihcu

Registration forms: Eastern Economics Association, Bryant College, Smithfield, RI 02917; phone (401) 232-6470; fax: (401) 232-6720

Santa Fe Manufacturing Conference

April 11-14, 1995; Santa Fe Institute, Santa Fe, New Mexico

Contact Person: Bob deSimone, email: crd@flavors.com

The Self-organizing Psyche: Nonlinear Contributions to Psychoanaltyic Theory (co-sponsored by The Society for Chaos Theory in Psychology and the Life Sciences)

May 19-21, 1995; Mohonk Mountain House, New Paltz, NY 2 hours north of New York City

Contact Person: Alan Stein--Phone: (212) 362-2559; email: astein@biopsy.necet.edu

The Evolution of Complexity: Evolutionary and Cybernetic Foundations for Transdisciplinary Integration (part of the Conference: Einstein Meets Magritte: An Interdisciplinary Reflection on Science, Human Action, and Society)

May 29-June 3, 1995; The Free University of Brussels, Belgium

Contact Person: Dr. Frances Heylighen PO-PESP, Free University of Brussels, Pleinlaan 2, B-1050 Brussels, Belgium; Fax: 32-2-641 24 89; email: fheyligh@vnet3.vub.ac.be; or check WORLD WIDE WEB page: http://pespmc1.vub.ac.be/Einmagsy.htm

Third European Artificial Life Conference

June 4-6, 1995; Granada, Spain

Contact: Juan J. Merdo, Dept Electronica, Facultad de Ciencias, Campus Functenueva, 19071 Granada, Spain; phone: 34-58-243162; email: ccal@casip.ugr.es

Graduate Workshop in Computational Economics

June 19-July2, 1995; Santa Fe Institute, Santa Fe, New Mexico

Contact Persons: John H. Miller, Social and Decision Sciences, Carnegie Mellon University, Pittsburgh, PA 15217; email: miller@santafe.edu; Telephone: (412) 268-3229 & E. Scott E. Page, California Institute of Technology, 228-77, Pasadena, CA 91125; email: scotte@mrfloods.caltech.edu; Telephone: (818) 395-4216

Completed applications should be sent to Scott E. Page at the above address. The deadline for applications is April 15, 1995.

AMS Summer Workshop in Smooth Dynamical Systems and Dimension Theory

June 25-29, 1995; University of Washington, Seattle

Contact: American Mathematical Society

The Triple Helix: University-Industry-Government Relations: A Laboratory for Knowledge Based Economic Development

January 4-6, 1996; Amsterdam, The Netherlands Contact Persons: Henry Etzkowitz, Department of Computer Science, Columbia University, New York 10027 USA; Telephone: (212) 939-7028; Fax (212) 666-0140; email: etz@cs.columbia.edu & Loet Leydesdorff, Department of Science and Technology Dynamics, Nieuwe Achtergracht 166, 1018 WV Amsterdam, The Netherlands, Telephone: (31) 20-525-6598; Fax: 525-6579; email: loet@sara.nl

AIEM4--The Fourth International Workshop on Artificial Intelligence in Economics and Management

January 8-10, 1996; Tel-Aviv, Israel

Contact Persons: Dr. Moshe Zviran, Faculty of Management, Tel-Aviv University, Tel-Aviv, Israel; Telephone: 972-3=640-8025; Fax: 972-3-6409560; email: AIEM96@vm.tau.ac.il

NEW BOOK ON CHAOS THEORY IN PSYCHOLOGY

Frederick David Abraham, past president of the Society, announces the publication of a new book of papers connecting chaos theory and related theories to various psychological fields. Many of the articles are written by society members. The book will be available April, 1995.

F. D. Abraham & A. Gilgen (Eds.), Chaos Theory in Psychology (Westport, CT: Greenwood Publishing Group, Inc.; ISBN 0-313-28961-1; 400 pages).

Costs:

Hardcover: $75.00

Paper: $29.95

UPS Shipping and Handling:

First Book: $3.50 US; 5.00 Canada;

Additional Books: $1.00

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NEW JOURNAL

Fractals: An Interdisciplinary Journal on the Complex Geometry of Nature.

Honorary Editor: Benoit Mandelbrot

Editors: M. Matushita, M. Schlesinger, and T. Viesels

Publisher: World Scientific

Reviewed by Ian Stewart in Nature, 9/29/94, Vol. 371, No. 6496.

BOOK REVIEW ESSAY (CONT. FROM PAGE 2)

Bohm's notion of the "dialogue" (Bohm & Peat, 1987, pp. 241-243) may be particularly salient as an alternative view of the therapeutic encounter. The participants "co-construct their personal realities ...in an interactive interdependence" (Mahoney, 1991 p. 111). There is no assumption that the psychotherapist is an expert, accessing "hidden knowledge." Metaphorically speaking, the "emperor" and the "subject" are both naked!

Chaos Theory also might be

conceptually woven into fabric of the so-called "narrative therapies" (see The Family Therapy Networker, 1994), which also seem to facilitate self-organization.

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Varela, F.J., Thompson, E., & Rosch, E. (1993). The embodied mind: Cognitive science and human experience. Cambridge, MA: MIT Press.

Telephone:(512)477-7877;

email: Hawkins@ utxvms.cc.utexas.edu

"STRANGE ATTRACTOR CHAOS" (CONTINUED FROM PAGE 2)

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NEW NAMES FOR THE SOCIETY

Many new names have been forwarded to the Society, some tongue-in-cheek. There will be a discussion of the new names at the Fifth Annual International Conference in August. Hopefully we will be able to reach some kind of consensus on a new name. A major issue about the name concerns whether "Pscyhology" shold be retained. Some members have voiced the concern that the Society was originally founded by psychologists, and that a predominance of the membership are involved in the various psychological disciplines. Others warn that a focus on "Psychology" is too limiting and excludes a wider audience of nonpsychologists.

New Proposals:

Society for Complex Systems

Society for Chaos Theory in the Life Sciences (SCTLS, pronounced "skittles")

Society for Nonlinear Analysis and Complexity Theory (SNACT) or Alliance for Nonlinear Analysis and Complexity Theory (ANACT)

Society for Chaos and Psychology

Society for the Study of Complex Living Systems

Society for the Study of Chaos and Complexity in Living Systems

Chaos Theory Society

Society for the Application of Chaos Theory To the Social and Life Sciences

Society for Chaos Theory and Its Applications

Society for Chaos and Complexity in the Behavioral, Social, and Life Sciences

Society for the Application of Chaos Theory to the Social and Life Sciences

The Chaotic Society

Society for Nonlinear Dynamics

AND FINALLY:

The Society for Chaos Theory of Everything

Society for Chaos Applied Magnificently (SCAM)

The Society for Chaos, Complexity, Nonlinearity, Emergence and General Confusion in the Pschological, Psychiatric, Biological, Philosophical, Theological, Social, Economic, Anthropological and Hagiographic Sciences (SCCNEGCPPBPTSEAMS for short!)

EDUCATIONAL OPPORTUNITIES

Ph.D. Program in Complex Systems and the Complex Systems

A National Institute of Mental Health (NIMH) Training Program leading to a Ph.D. in Complex Systems and the Brain Sciences at Florida Atlantic University; under the direction of Dr. J.A.S. Kelso.

Contact: Dr. Betty Tuller, Associate Director, Program in Complex Systems and the Brain Sciences, Florida Atlantic University, 777 Glades Road, PO Box 3091. Boca Rotan, Florida 33431; email: tuller@walt.ccs.fau.edu

see WEB page at http://bambi.ccs.fau.edu/ccs.html

UCLA Extension will present the short course, "Fuzzy Logic, Chaos, and Neural Networks: Principles and Applications", May 22-24, 1995, UCLA campus in Los Angeles.

Instructor: Harold Szu, PhD, Research Physicist, Washington, DC.

This course presents the principles and applications of several different but related disciplines--neural networks, fuzzy logic, chaos--in the context of pattern recognition, control of engineering tolerance imprecision, and the prediction of fluctuating time series. Complex neurodynamic patterns may be understood and modelled by Artificial Neural Networks (ANN) governed by fixed-point attractor dynamics in terms of a Hebbian learning matrix among bifurcated neurons. Each node generates a low dimensional bifurcation cascade towards the chaos but together they form collective ambiguous outputs; e.g., a fuzzy set called the Fuzzy .Membership Function (FMF). The course delineates the The course covers essential ANN learning theory and the elementary mathematics of chaos such as the bifurcation cascade route to chaos and the rudimentary Fuzzy Logic (FL) for those interdisciplinary participants with only basic knowledge of the subject areas.

Contact person: Marcus Hennessy; Telephone: (310) 825-1047; Fax: (310) 206-2815; email: mhen-

JOURNAL CALL FOR PAPERS

Psychological Perspectives, edited by Ernest Rossi, Ph.D. is a twice yearly peer reviewed international Journal of Jungian Thought that would like to receive manuscripts on the theory and applications of Chaos and nonlinear dynamics that are appropriate for a general readership. Although most of our readers are practicing professionals in mental health, we also reach a broad cross section of the general public that appreciate articles written at the level of the NY Times or Scientific American.

Send submissions (about a dozen double-spaced pages) to:

Psychological Perspectives, 10349 W. Pico Blvd., Los Angeles, Ca 90064

SPECIAL INTEREST GROUP: CHAOS AND COMPLEXITY THEORIES IN EDUCATION

The American Educational Research Association has agreed to have a specical interest group on Chaos and Complexity Theories in Education. The first meeting will be at the AERA conference in San Francisco, Wednesday, April 19, 1995 at 10:30 AM.

Contact person: Bob Kahn, University of Missouri-Kansas City; Phone: (816) 235-2477; email: rkahn@vax1.umkc.edu

REQUEST FOR SUBMISSIONS

The newsletter is requesting submissions for future issues. Please send articles, research notes, book reviews, artwork (in PCX format or fine copies), announcements, advertisements (future issues will include ads for software, and so on), etc.

Send to: Jeffrey Goldstein, Ph.D., 29 Hayes Road, Amity Harbor, NY 11701 USA

(516) 789-4145; Fax (516) 877-4607; email: goldstein@sable.adelphi.edu

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