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CALL FOR PAPERS

The 17th biennial meeting of the International Society for Human Ethology will be held in Ghent, Belgium 27-30 July 2004. Symposium, oral presentation, and poster proposals that address any aspect of research or theory within the field of human ethology are welcome.

Deadline for submission of abstracts is 5 April 2004 but earlier submissions are encouraged.

Each abstract for an oral presentation or poster abstract should follow this format:

Line 1: authors' names, last name first in capital letters, then first name(s) in lower case letters.

Line 2: institutional address(es)--any information that will fit on one line.

Line 3: e-mail address of corresponding author.

Line 4: title of presentation in capital letters. Then skip a line and single-space the abstract of no more than 100 words.

Proposals for symposia should include the same information on lines 1 through 4 for the communicating author, plus a 250-word, single-spaced description of the symposium theme together with the set of individual papers (3 or 4), each of which is to follow the four-line format including a 100-word abstract. The symposium will be accepted or rejected as a whole, and the communicating author will be notified.

Individual Presentations, including those for symposia, will be 20 minutes in length, including

5 minutes for discussion. The schedule may permit additional discussion time for symposia. Presenters of posters are expected to appear at the poster session. All presentations are to be in English.

Please specify if you wish your oral presentation (individual symposium papers are eligible but posters are not) to be considered for the Linda Mealey Award (formerly the Young Investigator Award). To do so, type YI on a fifth line, below the title of the presentation. See separate description of this award (p 4) for details.

Please specify in a cover letter if you intend to make a powerpoint presentation and if you prefer the poster form of presentation. You may request a formal letter confirming acceptance of your submission; otherwise, notification will be by e-mail. If you need a letter, indicate deadline date, which we will try to honor. Submission by e-mail is preferred.

Proposals will be reviewed by Astrid Juette <astrid.juette@kli.ac.at> and Glenn Weisfeld <weisfeld@sun.science.wayne.edu>. Please send your submission to both reviewers.

Hard copies on disk with the name of the operating system and word processing system will also be accepted; see the Officers Box of the Human Ethology Bulletin for addresses.

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Ghent is one of Western Europe's most attractive historical cities, known for its excellent gourmet dining and extensive cultural life. Its university was founded in 1817 and is one of the largest universities in the Low Countries. The city is located 55 km to the west of Brussels, covers 156 sq. km of which 36 sq. km is port area. It is the second largest city of the region 'Flanders', and the third centre in Belgium. Ghent is the core city of a metropolitan area of 515,000 inhabitants; 290,000 people live in the villages of the Ghent commuting belt outside the city limits. Every day, 35,000 people commute to Ghent.

The city combines an impressive past with a vivid present. In summer, Ghent is visited by tourists from all over the world. The historic heart of the city offers a lot of places of interest. From St Michael's bridge there is a wonderful view on the skyline of Ghent with the three impressive towers of St Nicholas' Church, the Belfry with its bell tower and St Bavo's cathedral with the world famous painting "The Adoration of the Mystic Lamb" by Jan van Eyck. Traces of the Middle Ages were preserved at a lot of places. The old port with its guild halls on the Graslei and Korenlei is merely one example of the beautiful views this town has to offer. Not far from the Graslei arises the Castle of the Counts, once the medieval fortress of the Count of Flanders. Ghent can be discovered by boat, carriage, bicycle or on foot.

The official language in Ghent is Dutch but most people also speak French, English and/or German. The Belgian currency unit is the euro. There are exchange offices and banks in the city centre, credit cards are accepted in most places.

Transport

International air travellers usually arrive at Brussels International Airport. From there, a regular train service connects to Ghent, either at Ghent St-Pieters or at Ghent Dampoort railway station. Visitors to the city center take trains to Ghent St.-Pieters. The conference venue is located in the city center, as are the hotels.

Conference Lodging

The meeting will take place at the Sofitel Gent Belfort, Hoogpoort 53 B-9000 Gent. Through Sofitel, we reserved 50 rooms at the IBIS Kathedraal Hotel at two minutes walking distance from the conference venue. We obtained a special conference discount, rooms here are 95 EURO single room, breakfast included. In addition, 20 rooms are reserved at the NOVOTEL hotel, next to the Sofitel. Here too, room rates are discounted at 127 EURO single room, breakfast included. These rooms are reserved on a first come, first serve basis. Both the conference location as the hotels suggested here for lodging are right in the middle of the historic city center. Lodging at university dormitories will also be offered later on, as well as contact details for other hotels.

Room reservations can be made directly at the hotel:

Sofitel Gent Belfort
Hoogpoort 53
B-9000 Gent
Belgium
Phone: + 32.(0)9. 233.33.31
Fax: + 32.(0)9. 233.11.02

Novotel Gent Centrum

Goudenleeuwplein 5
Gent 9000, Belgium

Property Summary

117 rooms. 4 stories. Built in 1986. Renovated in 1996. In the very heart of the historic centre, next to the city-hall, the Belfry, St-Bavo's cathedral, museums and shops.

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12:00 / NOON / 12:00 / NOON

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Location

**Limburgstraat 2
9000 Gent**

General information about Ghent can be obtained from:

Tourist Office City of Ghent Administration

Predikherenlei 2
B-9000 Ghent
Tel. +32 (0)9 225 36 41
Fax +32 (0)9 225.62.88
E-mail toerisme@gent.be

Inquiry desk

Crypt of the Belfry
Botermarkt 17A
B-9000 Ghent
Tel. +32 (0)9 266 52 32
Tel. +32 (0)9 266 52 33
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For more information about Ghent see:

www.gent.be/gent/english/index.htm

Or contact the ISHE conference organizer:

kristiaan.thienpont@ugent.be

Film Review

The Last Natives: Taw Batu

by **Francisco Abati**. Social Anthropology Department, University of Salamanca, Salamanca, Spain. www.africafilm.com

Reviewed by Peter LaFreniere, Department of Psychology, 362 Little Hall, University of Maine, Orono, ME 04469. peterlaf@maine.edu

In this first of a series of documentaries of indigenous tribes of Asia and Africa, Human Ethnologist, Francisco Abati, explores the behavioral and sociocultural adaptation of two isolated peoples of the remote outer islands of the Philippines, the Palawan and Taw Batu. Over the past 15 years, Abati has been active in visiting isolated native groups, earning their confidence and documenting their cultures during an historical era in which they are rapidly disappearing. To date 24 films (18 on African tribes and 6 in Asia) have already been broadcast on Spanish National TV (TVE) and are now being translated and reformatted in English. This first English language film provides a brief overview of Palawan and Taw Batu social organization and customs, as well as a detailed look at their technology and everyday life.

The Palawan live in the most remote of all the islands that are part of the Philippine archipelago. The simple social organization of the Palawan is based on small groups of families who live together in villages on the southern part of the island, adjacent to the steep slopes of the mountains between the primary and secondary tropical forest at about 1000 meters. The Palawan cultivate the fields located at the foot of the mountains. Their principal crop, rice, is grown on dry land, rather than the typical wet rice paddies common to other Asian groups. This method of cultivation produces an irregular crop which forces them to depend on other crops like sweet potatoes, mandioca, sorgho and mijo. In addition to this harvesting they take advantage of the resources of the forest, which they consider a great garden that provides them with a variety of plants, vegetables and fruits.

One aspect of the film that I particularly enjoyed was the high quality professional photography of unstaged activities of the people, as well as the scenic vistas of unspoiled tropical rain forest, a landscape that does not contain even a single nail. Palawan houses and storage silos are built from wood, bamboo and ratan rope. The roofs are covered with leaves of diplak or with grass. The palawans store their rice crops in silos, which are recognizable by their inclined roof. They own very little furniture and utensils: rice baskets, a lighting utensil, and wooden objects such as a mortar and pestle, as well as a wooden chest where they keep items of value.

In general the Palawan practice a traditional division of labor according to age and sex. The men build the community's structures, go out hunting and fishing with harpoons or traps, while women fish with line and hook, engage in light farming and harvesting, and take care of the children and their home. Palawans are generally peaceful and tolerant, resolving their conflicts by discussion and very rarely with violence. The elders have the respect and consideration of the group and serve as arbitrators in the litigation. They have a code of justice that stipulates the penalties that correspond to the infractions, the most severe of which is incest.

The Palawan understand their territory belongs to them and they share it with their neighbors. They also understand that the one who works the land has the right to take advantage of its products. They feel that nature is inhabited and surrounded by spirits. Boulders, trees and streams have invisible ghosts and during their infancy, as part of their socialization, they learn to recognize and respect it. This explains the high level of respect the Palawan profess for their environment. There is at this point no direct influence of the missionaries on Palawan society, and consequently their beliefs have been kept intact. They are afraid of an assembly of malignant spirits created by the diabolic Sajtan. They recognize Ampuk, the creator of all things, which is part of their rituals even though it is considered inaccessible and far away. The rest of the spirits are much closer and have a significant influence on their destiny, such as the spirit of the rice, or protector of the forest, and the ancestral thunder responsible for the maintenance of the human moral order.

In the valley of Signapan, south of the Island of Palawan, lives another group of about 100 individuals who maintain an ancient way of life. The Taw Batu, or "cavepeople", live part of the year in caves during the typhoon rains. The ethnic identity of the Taw Batu centers around their life in the caves, even if the culture is not very different from their Palawan neighbors who live in huts. They speak a language that belongs to the same Austronesica family. They live in generally monogamous families, "cassawana", that are hierarchically organized in clans called "bulum-bulum". Each clan owns one part of the valley where all members live together and share their food in one common house and a cave.

The Taw Batu are the last human beings today, that still live in caves, maintaining a way of life that dates from the Paleolithic era. To the north, near Quezon, is the cave of Tabun with human remains that are 50,000 years old. The caves of the Taw Batu have been used for at least the last one thousand years, according to research done by the National Museum of the Philippines.

While the caves provide protection from the typhoons that strike the coastal lowlands, they are also uncomfortable due to the humidity and the cold air currents, which produce frequent respiratory infections and aches and pains. There are no modern pharmacies to take care of these ailments, but the Taw Batu have significant knowledge of Mother Nature. For example, they plant next to their caves a medicinal plant called "panavoy", which is used to control coughing. According to Abati, who also has a degree in Tropical Medicine and Parasitology, the Taw Batu suffer diseases such as malaria, typhoid and intestinal parasites. However the chronic diseases of modern societies, including cancer and heart disease, are largely unknown among the Taw Batu, owing to their simple, active life style, healthy diet, and complete lack of obesity. I was also struck by two other contextual factors: 1) the careful, unhurried pace of their daily activities; and 2) the virtual absence of noise. Together these factors would appear to significantly lower the degree of corrosive physiological stress the Taw Batu experience compared with their modern urban counterparts.

The Taw Batu make their life in the caves habitable through the use of fire and rudimentary bamboo furniture. From the caves they also obtain water that filters through the stalactites and protein by hunting swallow nests and bats. The Taw Batu build dams in nearby streams to trap fish with the help of a plant called "tuba". This plant stuns catfish and other local fish. They also catch crabs by diving, and a favorite meal is eel mixed with Cassava. The habitat of the valley provides them with a quiet life and sufficient foods to feed the small population. Spear hunting is practiced during the months of October to May. This coincides with the harvesting of the fruits hanging from the tree. Throughout the balance of the year, they hunt small mammals such as squirrels and raccoons.

The Taw Batu know very well that their way of life is threatened by the intrusion of powerful technologies. Indeed the key value of Abati's extensive fieldwork and documentary films is the preservation of these last examples of early human adaptation with roots in the prehistoric era. The loss of cultural variability appears to be an inevitable consequence of a global civilization that is thrusting us towards a convergence of language, values and technological development.

The first of this series on the Last Natives provides a rare glimpse into the details of life inside a culture that is far removed from this new order, and much closer to our ancestral past. Abati's film is essentially descriptive with little theorizing. To some this may be a weakness, but it may also be a strength, since because of its atheoretical nature it is suitable for students at a variety of educational levels from high school to advanced graduate study in cultural anthropology, human ethology, and cross-cultural psychology.

Peter LaFreniere is Professor of Psychology at the University of Maine. He completed his Ph.D. at the University of Minnesota's Institute of Child Development in 1982. He is the editor of the Human Ethology Bulletin and the author of Emotional Development: A Biosocial Perspective (2000).

Nature's Magic: Synergy in Evolution and the Fate of Humankind

By Peter Corning. Cambridge University Press, Cambridge CB2 2RU, UK, 2003, 454p. ISBN 0-521-82547-4.

Reviewed by Johan M.G. van der Dennen. E-mail: j.m.g.van.der.dennen@rechten.rug.nl

In Dutch there is a proverb meaning something like "serving the mustard after the meal". The book *The Triumph of Sociobiology* by Alcock (2001) appeared just around the time that the last society with 'sociobiology' in its name (The European Sociobiological Society) ceased to exist as an independent organization by merging with ISHE. A triumph? ...Pyrrhic victory? ... or just mustard after the meal?

Peter Corning's *opus magnum*, *Nature's Magic: Synergy in Evolution* appears in the year that the Dutch voted the term 'synergy' to be among the top ten of most abused business and management buzz words. Mustard after the meal?

Peter Corning has, unwittingly, been one of my mentors. When I was a young and inexperienced researcher studying aggression, violence and war, Corning's publication "Toward a general theory of violent aggression" (1972), his 1975 paper "An evolutionary paradigm for the study of human aggression", and his book *The Synergism Hypothesis* (1983), struck me as being far ahead of their time, and pointed me in the direction I am still following (and ardently advocating): the evolutionary paradigm.

This new book is a paean to synergy. Corning attempts to show "that synergy is of central importance in virtually every scientific discipline, though it very often travels incognito under various aliases (mutualism, cooperativity, symbiosis, win-win, emergent effect, a critical mass, coevolution, interaction, threshold effects, even non-zerosumness)" (p. 5). He holds that novel forms of functional energy (cooperative effects) have been responsible, over time, for shaping the progressive evolution of complexity in nature through a process that can be

characterized (after biologist John Maynard Smith) as 'synergistic selection'. Corning calls this new evolutionary paradigm 'Holistic Darwinism'. Natural selection differentially rewards, or disfavors, different genes and gene combinations, based on the *effects* they produce in a given environment. It is the functional payoffs that matter. Cooperation and competition are commonly intertwined - in fact, many forms of cooperation exist in order to better compete as a team. Many forms of cooperation are entirely selfish, and there is no need to postulate that cooperation results from altruism or similar 'noble' motives.

The varieties of synergy distinguished by Corning are:

(a) **Synergies of scale.** Many forms of synergy arise from adding, or multiplying, more of the same thing. A bigger molecule, a bigger organism, a bigger group, or a bigger organization may be able to do things that smaller ones cannot. Synergies of scale can be greatly accelerated with multiplicative processes [exponential growth].

(b) **Threshold effects.** These are special cases of a synergy of scale; Corning calls it "synergy plus one". Threshold effects occur when a critical point is reached that precipitates an abrupt change of state. A familiar example is the old saw about "the straw that broke the camel's back". Threshold effects may also travel incognito, disguised as a 'critical mass', an 'optimum number', and [in ecological circles] 'density dependence' and 'frequency dependence'.

(c) **Phase transitions.** These are related to threshold phenomena. They involve an abrupt and radical change of state in many physical and biological systems under certain conditions. Physicists often use as examples the crystallization of water into ice, the loss of magnetic properties in ferromagnets at extremely high temperatures, or the onset of superconductivity in various materials at extremely low temperatures.

(d) **Gestalt effects.** This term derives from a branch of psychology known as 'Gestalt theory'. Founded in Germany before World War I, Gestalt psychology is concerned with the ability of the

human mind to see patterns, relationships, or 'wholes' composed of many parts. Our Gestalt capabilities are especially apparent when some of the parts in a visual pattern are missing or garbled. The Gestalt theorists have also identified certain 'laws' of visual perception, such as proximity, similarity, good continuation, and closure. The term 'Gestalt effects' can also be used in a broader sense, though. It could refer to any synergistic effect that arises from the pattern of physical/spatial relationships among different parts - its form or structure.

(e) **Functional complementarities.** The water molecules that collectively produce the Mississippi river are all identical. So [more or less] are the grains of sand that make up a beach, or the vesicles of glutamate that trigger a neuronal spike. But many other forms of synergy depend on different properties or capabilities that join forces to give the combination new functional characteristics. Lichen symbioses [symbiotic partnerships between cyanobacteria and fungi] are an example. Likewise, aspirin and opium have analgesic properties in combination that exceed the sum of their separate effects);

(f) **Emergent phenomena.** The term 'emergence' should properly be confined to those forms of synergy in which different parts merge, lose their identity, and take on new physical or functional properties. The human body could be said to be an emergent phenomenon. Our many trillions of cells are interdependent and form a unified 'whole' of many parts that produces combined, synergistic effects.

(g) **Augmentation or facilitation.** This involves combined, synergistic effects that enhance a dynamic process, or in some cases makes it possible. One example is catalysts, substances that decrease the activation energy required for various chemical reactions while themselves remaining unchanged.

(h) **Joint environmental conditioning.** Through joint action, individual organisms can often achieve significant economies or efficiencies that would not otherwise be possible. Emperor penguins, for example, huddle together in tightly packed colonies, sometimes numbering 10,000 or more, for several months at a time. By doing so, they are able to share precious body heat, which

would otherwise go to waste. Of course, animals often collectively reshape their environments in more active ways. Nests, dams, underground burrows, prepared sleeping sites, even woodland animal trails may be the product of joint efforts. And the same is true in humankind, needless to say.

(i) **Risk- and cost-sharing.** One of the pillars of social life, in both nature and human societies, is the ability to 'economize' by sharing with others the costs and risks inherent in living. There are innumerable examples in the natural world: fish schools, migratory bird formations, synchronized breeding, joint nest-building, collective foraging, and many more. Thus many birds and some animals divide up the job of lookout duty; they take turns scanning the environment for potential predators. One of the most dramatic examples of cooperative risk-reduction in nature involve vampire bats, who have created a kind of mutual insurance system.

(j) **A combination of labor.** One of the most important sources of synergy - in nature and human societies alike - involves what the economists call a 'division of labor'. Plato was perhaps the first social theorist to appreciate that synergy lies at the very foundation of human societies; the division of labor produces mutually beneficial results because different people have different aptitudes, and specialization increases a person's skill and efficiency. The classical economist Adam Smith, in *The Wealth of Nations*, provided us with one of the textbook examples. The writers of modern-day economic textbooks are fond of using Adam Smith's pin factory as an illustration of the division of labor, but this characterization downplays the synergy. Another way of looking at the pin factory is in terms of how various specialized skills, tools, and production operations were *combined* into an organized 'system'. It should really be called a 'combination of labor'. The division/combination of labor is also widespread in nature. There are, for instance, the orb-web spiders that collaborate in building immense collective webs that span the woodland streams where their insect prey are especially abundant. There are also the many carnivores that engage in collaborative hunting behavior.

(k) **Animal-tool 'symbiosis'.** The many functional relationships that exist in nature between organisms and various 'tools' amount to a form of symbiosis. The animal-tool relationship produces otherwise unattainable synergistic effects, many of which spell the difference between life and death. Thus, some birds use rocks to break open egg shells while other deploy thorns to dig for grubs under the bark of trees. Some chimpanzees use 'wands' to fish for buried insects while others use stone anvils and hammers to crack open the proverbial tough nuts. California sea otters are legendary for using rocks that rest on their bellies while they float on their backs as a 'tool' for breaking open mussels and other hard-shelled prey.

(l) **Information sharing and collective intelligence.** Information sharing is one of the more common forms of synergy, both in nature and in human societies. Indeed, all socially organized species absolutely depend on it. Very often it is a service that can be provided to others at no cost to the possessor, or at an incremental additional cost, while the benefits can be multiplied many times over. In socially organized species, alarm calling is especially well documented. Much of the vocalization that occurs in various species of birds, carnivores, dolphins, and primates relates to making group-level decisions about migration and foraging.

(m) **Convergent (historical) effects.** Last, and perhaps least appreciated, is one of the most pervasive and important forms of synergy in nature and human societies alike - the daily assault of fortuitous, often unexpected convergent effects that shape the evolutionary process. Here synergy and history join hands. Many of the synergies that surround us and impact upon our daily lives are unplanned, causally unconnected and highly context-dependent. For example, the fortuitous co-location only in the Fertile Crescent of key 'founder crops', especially emmer wheat (which could be domesticated with a single gene mutation), together with legumes and animal husbandry (which allowed for a balanced diet), meant that this was the most likely location for a 'technological breakthrough' that could provide food for a large, sedentary, concentrated population. Very often, synergy is not simply an object, but a process - a dynamic in which many things, and people may 'work together' [whether

wittingly or not] to produce a new form of synergy. For these special moments of creation Corning suggests the term 'Bingo Effect'.

The book consists of ten chapters in which Corning writes about such diverse subjects as quarks, genes, genomes, organisms, hominid evolution, human history, (bio)economics and an encyclopedic number of other issues with equal ease, confidence and conviction. Those readers who regularly participate in ISHE, HBES, or APLS conferences must know Peter Corning and his inspired, enthusiastic presentations.

I. The Synergism Hypothesis

Synergy, Corning claims, is a bottomless well of creativity in evolution, and especially the evolution of complexity. This may sound like a contradiction of Darwin's theory and a cavalier rejection of more than 150 years of evolutionary biology. But, in fact, the opposite is true. This theory involves only a different way of viewing the same phenomena - a shift of focus (and emphasis) to a different aspect of the evolutionary process. It is entirely consistent with Darwin's theory. Call it an economic approach - or perhaps 'bioeconomics'. The Synergism Hypothesis views evolution as an ecological and economic process - a survival enterprise - in which living systems and their genes are embedded (p. 113).

Corning calls this view of evolution 'Holistic Darwinism', because the focus is on the selection of wholes, and the combinations of genes that produce those wholes. Simply stated, cooperative interactions of various kinds, however they may occur, can produce novel combined effects - synergies - that in turn become the causes of differential selection. The 'parts' that are responsible for producing the synergies (and their genes) then become interdependent 'units' of evolutionary change. In other words, it is the 'payoffs' associated with various synergistic effects in a given context that constitute the underlying cause of cooperative relationships - and complex organization - in nature. The synergy produced by the 'whole' provides the functional benefits that may differentially favor the survival and reproduction of the 'parts.' Although it may seem like backwards logic, the thesis is that functional synergy is the underlying cause of cooperation (and organization) in living

systems, not the other way around. To repeat, the Synergism Hypothesis is really, at heart, an 'economic' theory of complexity in evolution (p. 117).

Corning's new book makes for enjoyable reading, with clear formulations, imaginative metaphors and similes, an encyclopedic scope, and a high 'convincibility factor'. There is only one thing wrong with a book like this for a reviewer like me: every page contains at least one sentence or paragraph that begs to be quoted. In order to avoid these multiple temptations, I shall limit myself to a brief evaluation of Corning's (Ch. 9) sometimes hilarious review of what he calls the 'Neo-Pythagoreans', and his treatment of hominid/human evolution and the role of collective violence in that many-million-years process (Ch. 7).

In his Chapter 9 (The Science of History), Corning reviews the history of the human imagination dealing with the complexity of the 'real-world-out-there' - from Pythagoras' (6th century BC) and Kepler's mathematical mysticism of the 'Music of the Spheres' all the way to the sometimes obscurantist concepts invoked by pretentious contemporary magicians and prestidigitists to 'explain' the complexity of life. (These constructions are technically known by the somewhat awkward name 'ignotum per ignotius', i.e., 'explaining' the unknown by introducing another, and even more obscure, unknown - a practice not unknown in the history of science: Lamarck's "power of life"; Spencer's "universal law of evolution"; Bergson's "élan vital"; Driesch's "entelechie"; Teilhard de Chardin's "omega point"; Grassé's "idiomorphon"; Schrödinger's "negative entropy"; Prigogine's "dissipative structures"; Kaufmann's "laws of emergent order"; and, more recently, self-organization theory and complexity theory.) Corning launches a plea to end the unproductive, vexatious, and often acrimonious debate over 'holism' versus 'reductionism'. In reality both are necessary but insufficient. It would be more productive, he argues,

...to shift our focus to 'architectonics' - the study of how the world has been 'built up' from the novel cooperative effects produced by many interacting parts; we need to focus more intently on the joint effects produced by the relationships that arise between

things, or organisms. If reductionism is necessary for understanding how the 'parts' work and how they interact, holism is equally necessary for understanding 'why' living systems have evolved, and what effects they produce. ...the universe can be portrayed as a vast structure of synergies ... in which the synergies produced at one level serve as the building blocks for the next level. Moreover, unpredictable new forms of synergy, and even new principles, emerge at each new level of organization. This ultimately necessitates a science of history (pp. 297-298).

Corning's treatment of the role of collective violence (especially warfare) in hominid/human evolution (Ch. 7) may be considered a vivid illustration of the roles of synergy and synthesis in science. Building on many sources ("ideas with many fathers") from many (sub)disciplines, hypotheses and speculations, Corning draws a picture of hominid/human evolution which is the most integral and 'verisimilitudinous' I have encountered. It is a clear example of cross-fertilization, another source of synergism.

Far from being the umptieth "theory of everything", Corning's magnificent book presents an invitation to look at 'everything' in a novel and fresh way; and I can recommend it to all ISHE members, students and teachers alike.

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Johan M.G. van der Dennen is senior researcher at the Department of Legal Theory, Section Political Science (the former Polemological or War and Peace Research Institute), University of Groningen, the Netherlands. He has been studying all aspects of violence and warfare in animals and man for more than 30 years.

Pretending and Imagination in Animals and Children

Edited by **Robert W. Mitchell**. Cambridge University Press, The Edinburgh Building, Cambridge CB2 2RU, 2002, 370 pp. ISBN 0-521-77030-0 [Hdbk \$85].

Reviewed by **Peter Gray**, Department of Psychology, Boston College, Chestnut Hill, MA 02467. E-mail: grayp@bc.edu

Pretend play, like language, is a species-typical trait of human beings. Children everywhere, by the time they are two years old, engage in pretense and clearly distinguish the products of their imagination from reality. A 20-month-old toddler "feeding" a doll imaginary food from a spoon knows that the doll doesn't really eat and that there is no real food on the spoon. Surely a great deal of learning goes into children's pretend play, but the basic capacity and drive for pretense, which provide the foundation for such learning, must be innate to the human mind. Humans apparently come into the world biologically prepared for two ways of thinking—a fantasy-based way and a reality-based way.

The question of whether pretense is unique to humans is analogous to that of whether language is unique to humans. Both questions raise semantic problems: How does one choose to define pretense (or language)? Almost all definitions of pretense, except those offered by the most resolute of behaviorists, invoke mental concepts, such as "intention" or "symbolic representation." It is risky enough to try to infer what is on the mind of a verbal child, but such inferences are far riskier when applied to a non-human animal. Studies of comparative cognition quickly bump up against a number of philosophical stumbling blocks. The attempts to surmount those blocks, and the debates engendered by those attempts, lead researchers to think carefully about basic definitions and assumptions.

Pretending and Imagination in Children and Animals, edited by Robert Mitchell, purports (on the cover blurb) to be "... the first book to focus on comparing and contrasting children's and animals' pretenses and imaginary activities." The

volume contains 22 chapters, authored or co-authored by 36 different researchers from five different countries. Nine chapters focus primarily or exclusively on children, another nine focus primarily or exclusively on animals, and the remaining four (three introductory chapters and one concluding chapter) integrate research on children and animals. The book is oriented toward specialists in human cognitive development and animal cognition; it assumes knowledge of such concepts as "meta-representation" and "theory of mind". The chapters were apparently written independently and do not bear explicitly on a common theme or set of themes. Yet certain themes do reappear across chapters.

The most prevalent theme of the chapters dealing with animals has to do with the cognitive underpinnings of pretense-like actions observed in non-human primates. If pretense is defined as *deliberately* and *knowingly* behaving as if one object or action were another object or action, or as if some object were present that is not present, then are animals capable of pretense? Historically, some observers have interpreted almost all playful acts of animals as pretense by this definition. For instance, Gregory Bateson (1955, p 41) argued that playfighting among monkeys "... could only occur if the participant organisms were capable to some degree of meta-communication, i.e. of exchanging signals which would carry the message 'this is play.' Further, he wrote (p 41) that this statement, expanded, ..."looks something like this: 'These actions in which we now engage do not denote what those actions *for which they stand* would denote.'" (Italics in original.) On the other side of the issue, Karl Groos (1898) had much earlier contended that animals in play practice adult activities without having any knowledge of the activities they are practicing. To Groos, animals playfighting are not pretending to fight, but rather are acting out a playfighting instinct that evolved because it helped animals acquire fighting skills. In the present volume, all who take sides on this issue seem to agree that the resemblance of an animal's playful behavior to some other, serious behavior is not in itself sufficient evidence of pretense.

The nine chapters dealing with animals contain many examples of non-human primates engaging in behaviors that either look behaviorally like

pretense or seem to involve symbolic characteristics similar to those of pretense. Among the examples are (a) a 4-year-old female Barbary macaque who began to treat her 2-year-old sister as an infant when her peers had their first real infants; (b) young chimpanzees who found hidden objects after seeing their locations in a scale model or a photograph; (c) an orangutan who apparently feigned interest in one object and lack of interest in another, thereby deceiving her human handlers in a way that allowed her, later, to follow through on her true, forbidden intention; (d) young female gorillas holding inanimate objects as they would hold a baby; and (e) language-trained apes engaged in such actions as bathing a toy doll, apparently pulling an imaginary pull-toy by an imaginary string, and making a toy alligator bite other toys. The challenge in each of these cases--taken up by some but not all of the authors--is to try to explain such actions cognitively as something less than pretense. It is never possible to prove that an action *is not* an act of pretense, as there is no way of proving that the animal *does not* have a particular intent or symbolic representation in mind while engaging in some activity. The closest one can come to proving that an action *is* an act of pretense is to show that all attempts to explain it as something else fail. Although they do not establish with certainty that animals are capable of pretense, the behavioral examples and discussions in this book do, at least, stimulate thought about the sorts of behaviors that may have been evolutionary precursors to human pretense.

The chapters on children deal with a disparate but interesting set of issues having to do with the nature and development of various types of pretense. Included here are (a) a longitudinal study documenting an increased use, with age, of informative language during pretend play in toddlers; (b) a longitudinal study showing the timing of the emergence of pretend play in relation to various other indices of the child's ability to represent objects symbolically; (c) a study suggesting that children's imaginative story-telling is provoked more by challenging objects (such as a toy alligator) than by objects that are part of their daily routine; (d) a qualitative study of children's actions and comments when pretending to be particular animals; and (e) a qualitative study of children's

imaginary companions. Each of these chapters offers food for thought about the functions that one or another type of pretense may serve for the developing child. In addition, two chapters deal with the question of young children's understanding of pretense. Do children who pretend know what it is to pretend? These two chapters touch on the philosophical issues about the nature of pretense raised by the animal chapters.

All in all, I found this volume to be well written and thought provoking. As is true of many edited volumes, the chapters do not relate to one another as well as they might. I was also somewhat disappointed by the relative lack of an explicit evolutionary perspective in the book, but that lack may simply reflect the present state of research into pretense. Ultimately, it seems to me, discussions of animal and child pretense-like behaviors will be best integrated by focusing on continuities and discontinuities in their evolutionary functions.

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Peter Gray is Research Professor of Psychology at Boston College. He is author of an introductory psychology textbook, and his current research is concerned with the educative functions of children's play.

VIOLENCE & GENDER REEXAMINED

By **Richard B. Felson**, American Psychological Association, E-mail: www.apa.org/books, 2002, 273p., ISBN 1-55798-895-1. [Hdbk, US\$49.95].

Reviewed by **Wade C. Mackey**, 7103 Oakwood Glen Blvd., Suite #19, Spring, Texas 77379 U.S.A. Email: WADDMAC@AOL.COM

Felson is an American sociologist who received his degree in the 1970s. "The central theme of this book", according to Felson, "is that violence against women should be understood as violence, not sexism" (p. 5). He continues: "...in feminist thought, there is some consensus that sexism is a key factor promoting violence against women, that offenders are motivated by power and control, and that violence against women is frequent because society tolerates it" (p. 6). Felson's goal is to test the accuracy of the putative consensus.

Chapters 1 and 2 set up the theoretical bases of the book. Chapters 3 - 8 analyze "violence inside and outside the family". Chapters 9 - 12 analyze "rape and sexual coercion".

Felson presents data and theory that are designed to address the feminist ideologues' view of violence wherein women are the targets. Felson concludes the book (Chapter 13) by presenting 12 hypotheses, predicated on and generated by feminist ideology, which would predict patterns of violence involving women. All 12 are argued to be unsupported by the evidence. Hence, those assertions consequent to feminist ideology – which relate violence and gender – are not sustained when tested against data.

In 1990, Van den Berghe wrote an article on "Why most sociologists don't (and won't) think evolutionarily". In the article he wrote: "The general failure of sociologists to understand, much less accept, an evolutionary perspective on human behavior transcends mere ignorance and ideological bias, although it incorporates a good deal of both. It also includes a general anthropocentric discomfort with evolutionary

thinking, a self-interested resistance to self understanding, and a trained sociological incapacity to accept the fundamental canons of scientific theory construction: reductionism, individualism, materialism and parsimony" (p. 173).

The Felson book is a good example of van den Berghe's assessment. The book is bracketed in a paradigm which is essentially *tabula rasa*, bracketed in the time frame of the latter quarter of the 20th century, bracketed in the American culture, and bracketed in the polemic of feminist humanities. The book's optimal value would be for other American/Western sociologists who wish to interact with feminist ideologues. Such ideologues tend to eschew empiricism as androcentric or patriarchic and seem more comfortable with rhetoric better aligned with the humanities. Thus, the data in the book would be more instrumental in influencing the competitors of the feminists, rather than in influencing the feminists themselves.

Felson credits himself for writing "...a paper criticizing the impact of political correctness on sociology" (p. x). Nonetheless, in the book, he skirts the variable of race rather thoroughly. Both the FBI and Uniform Crime Reports code for race as well as indicate that arrests (and victims) are not randomly or equally distribute across racial categories. However, Felson's index item "racial factors" lists only four pages: two on rape and two on gender interactions. In an enigmatic statement, Felson writes, "for some reason, Black women are more likely than Black men to kill their spouses" (p. 43). The "some reason" would have been interesting to explore, but Felson does not.

In terms of race and rape, Felson notes that, in the U.S., "only 3% of rapes committed by white men target black women" (p. 173), yet "about 40% of rapes committed by blacks target white women" (p. 174). This differential is mentioned and then quickly left. A parallel omission concerns father-absence and unwanted behavior on the part of their fatherless offspring (especially sons). There is a cottage industry of data on father-absence and criminal behavior on the part of fatherless sons. Given that most U.S. Black

children do not experience an on-going biological & social father (U.S. Bureau of the Census, 1999-2002), the omission of fatherlessness, as it reflects on violent crime rates, is not trivial. Although Felson may not agree with Rushton, *inter alios*, at least a footnote on the literature that discusses the relationship between race and reported crime would be appropriate. An additional anomaly also related to race is the unhelpful tendency, in terms of domestic violence, of merging husband with sexual partner and of merging father with woman's-sexual-partner. The different statuses have different behavioral profiles, but if they are combined, then the differences cannot be evaluated.

What may be of particular interest to HEB readers is Felson's treatment of an evolutionary perspective on behavior in general and violent behavior in the particular. Essentially, such perspectives are not entertained. Work by Buss and by Daly and Wilson are mentioned, but only in the context of descriptive data. Tinbergen's notions of the evolutionary development of behavior or the (survival) value of a behavior across generations are not pursued. For example, why there is a sexual dimorphism in humans is not discussed, nor is there any discussion on why the sexual dimorphism in humans is unexpectedly small. Framed differently, the current crop of men on the planet reflects millennia of women's choices of mating partners. Such selective breeding is not reviewed in the book.

There is no mention of the homologues of chimpanzees (e.g., neither Jane Goodall nor de Waal is referenced), bonobos or gorillas. Likewise, the analogues of baboons, gibbons, or canids are not referenced.

Felson presents only a limited cross-cultural perspective: mostly Western Europe and its extensions. The information found in the voluminous Interpol (current) data on homicide and serious assault from over 130 countries is not used. The comparability of serious assault may be problematic across nations, but the homicide data tend to be fairly clean. Such crime data have numerous correlates with markers for female (in)dependence and would have fleshed out his arguments.

Felson does note that "It seems likely that evolution plays a role in sex differences in sexual response. ...If evolution and biology influence any human behavior, sexual behavior is the most likely candidate." (p. 149). Such short shrift may allow the claim of an "interdisciplinary" approach, but does not edify the reader.

Following the maxim that occasionally a reminder may trump an inspiration: such a book may be salutary for HEB readers for the following reason. There is value in remembering that many authors and publishers do not feel compelled to present evolutionary theory or data either as an alternative perspective or as a complementary perspective. From Felson's perspective, the human condition has somehow emerged from the void fully assembled with no history: no history of cultural adaptation and no history of biological adaptation. The reader is given no help in understanding how the human condition came to be as it currently is. For Felson, no evolutionary or biocultural history of the human heritage is needed or wanted or even acknowledged. Unfortunately, Van den Berghe's analysis may extend well beyond the 20th century.

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Wade C. Mackey (University of Virginia, 1976; Anthropology) has published papers on gender and violence in Marriage and Family Review, National Journal of Sociology, The Journal of Men's Studies, Mankind Quarterly, The Family in America, Southern Journal of Criminal Justice, and Criminology.

IQ and the Wealth of Nations

by **R. Lynn and T. Vanhanen**. Praeger, Westport, CT, U.S.A., 2002, 298p., ISBN 0-275-97510-X [hdbk, \$67.85].

Reviewed by Daniel R. Vining, Jr., Population Studies Center, University of Pennsylvania, Philadelphia, PA 19174, USA.

This book has an intriguing thesis: the inequality in per-capita income between countries that we observe is due to the inequality in the intelligence (as measured by IQ) of the populations that inhabit these countries. The first half of the book is devoted to the measurement of mean IQ in a population. Some 80 countries have adequate samples to obtain the mean IQs of their populations. About 100 more countries' mean IQs are estimated, from their neighbors and from their racial mixes. I have no expertise in IQ testing, so I won't comment on the methods used to obtain these mean IQs. I will note that one of the authors (Lynn) is a psychologist and testing expert and that his estimates of population mean IQs are naturally controversial. His critics have been numerous and mostly motivated by ideology; his responses have been dogged.

The second half of the book is devoted to the measurement of per-capita income by country (these, too, will be criticized by economists, I am sure). But it is the combination of the two and the data analysis that follows that are unusual, indeed unique. A conventional regression of per-capita income on mean IQ follows and then a residual analysis where positive and negative outliers are examined and explained. The regression line is positive and close-fitting. Positive residuals (the regression line underpredicts these observations) are found to be due to natural resource riches (particularly oil) or a small number of a high IQ race which dominates and controls certain key economic sectors of the country in question. Negative residuals (the regression line overpredicts these observations) are generally due to high IQ populations being held back by some unworkable economic system, generally communism.

Given these results, one still confronts 2 problems: (1) changes in inequality cannot be explained by the regression model used in this

book and (2) the fact that high per-capita incomes drive birth rates below replacement. Income inequality between countries, between regions of a single country, and between individuals in a country, increases over time (see Firebaugh, 2000, for inter-country inequality, the subject of this book). We don't have data on changes in mean population IQ to explain this. Also, high IQ countries, regions, individuals (generally of the Mongoloid [East Asian] or Caucasoid [white] races) do not breed sufficiently to replace themselves. This has been observed over and over again. [See, for example, Sardon(2002) for country-level data]. High income suppresses fertility. There is not a single exception to this. So, are Lynn and Vanhanen seeking to explain a civilization-killing phenomenon?

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Biology and Behavior: Historical Perspective and Contemporary Trends

This event, celebrating Konrad Lorenz's Centenary, will take place in Vitoria, Brazil, at the Federal University of Espírito Santo (UFES), on 7-8 November 2003. The event aims at discussing Lorenz's ideas, the origins of Ethology in Brazil, then contribution of some Brazilian pioneer research groups to animal and human Ethology and some contemporary trends in the area. The event is being organized by the Research Group in Biology and the Behavioral Sciences and the Graduate Course in Psychology .

Aginaldo Garcia, PhD
Research Group in Biology and the Behavioral Sciences

SOCIETY NEWS

First Annual

Aldis Scholarships Awarded

Congratulations to these recipients of the first ever Aldis Awards. Each of them will receive approximately \$5000. support their ongoing research in human ethology. We thank all those research scholars involved in the evaluation process.

Elizaveta Boyko,

"Controlling human aggressive behavior: post conflict emotion stress in school children"

Vladimir Dorfman,

"Facial attractiveness, body movement and personality:

Jan Havlicek,

" Search for correlation between male dominance and odour attractiveness and masculinity rated by women"

Lee Ann Renninger,

"Impression formation: A comprehensive study on the effects of physical attractiveness, facial expressiveness level, and perceiver characteristics on the perception of a target"

Radek Trnka,

"Comparison of sex differences in interpretation of human (Homo sapiens) and chimpanzees (Pan troglodytes) facial expressions of emotions"

Letter to the Editor

Glenn Weisfeld laments the narrow range of topics that garner the bulk of attention from evolutionary psychologists, using his survey of four unnamed textbooks as evidence (Human Ethology Bulletin, 18 (3), 2003, p. 3). Readers of HEB who share Weisfeld's view may be interested in taking a look at Gaulin and McBurney's (2004) Evolutionary Psychology, 2nd Ed., Prentice Hall. This book explicitly sets out to apply evolutionary theory to the broad area of psychology by having a chapter that parallels almost every chapter in a typical introductory psychology book. It covers all the topics listed by Weisfeld as missing from the books he surveyed, including esthetics (but excluding humor). The first edition of this book was widely and well reviewed, including in this Bulletin, and its success is marked by having already come out in a second edition. Evolutionary thinking has been applied to a surprisingly wide range of topics in psychology. Instructors who wish to make that information available to their students are invited to take a look at our book at:
(<http://vig.prenhall.com/catalog/academic/product/0,4096,0131115294,00.html>).

Sincerely,
Donald H. McBurney
Department of Psychology
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Interviews available on Web

The following interviews by Frans Roes are now available on the web, courtesy of Frans, at:

www.froes.dds.nl

Robert Trivers
William D. Hamilton
Richard Dawkins
Martin Daly and Margo Wilson
Richard Alexander
George Williams
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Johan van der Dennen

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