

# Human Ethology Newsletter

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## SUBSCRIPTIONS

The Human Ethology Newsletter is published on a quarterly basis. Subscription fees are \$3.00, effective on a calendar year basis. Checks should be made out to the Human Ethology Newsletter and mailed to Cheryl Travis.

## POSITIONS AVAILABLE

**Ethologist:** An Assistant Professor position is available for Autumn 1978 in a department with a strong ethology-sociobiology program. The Ph.D. need not be in Psychology but the applicant will be expected to teach some psychology courses, e.g., Statistics and Animal Behavior Lab. This position will require substantial involvement in zoo research as well as research in ecological, genetic, physiological and other biological aspects of behavior. Please send curriculum vitae, reprints, and letters of recommendation to: Dr. Earl Hunt, Dept. of Psychology, NI-25, Univ. of Washington, Seattle, Washington 98195. Affirmative Action Employer.

## MEETINGS

**WESTERN REGIONAL MEETING:** Anyone interested in the development of a Western Regional ABS Meeting, similar to the Eastern and Midwestern Meetings, please contact: Dr. Marc Bekoff, Department of Environmental, Population, and Organismic Biology, University of Colorado, Boulder, Colorado 80309.

**ANIMAL BEHAVIOR SOCIETY MEETING:** June 19-23, Univ. of Seattle, Washington. Guest speakers for this meeting include Richard Alexander, Richard Dawkins, William Hamilton & Robert Trivers. Symposia titles are: Social Behavior on Islands, Mechanisms of Foraging Behavior, & Behavioral Expressions of Biological Rhythms. There will also be an informal session on Methodology. The registration fee is \$18 (regular member) \$12.50 (student member), and banquet tickets are

\$8.50. Mail registration fee to: Short courses registration, University of Washington DW-50, Seattle, Washington 98195. There is a room and board package available for those who wish to stay in dorms (\$14.75 per day for double occupancy with three meals included). Housing registration is conducted separately from conference registration.

## COLLEAGUES & COLLABORATORS

Mel Konner is an associate professor of anthropology at Harvard University (Cambridge, Mass. 02138). His interests lie in the biology of human social development, including evolutionary and anatomical-physiological bases of social behavior. He is presently preparing a book on the evolution of human infancy, based on field work among the San. He also teaches a course called "Human Behavioral Biology" which describes evolutionary, developmental and physiological principles relevant to the explanation of social behavior in humans. Behaviors are examined from a multifaceted viewpoint, using Tinbergen's "four why's" as a basic strategy.

Samir K. Ghosh is a university professor of sociology and director of the Indian Institute of Human Sciences (114, Sri Aurobindo Road; Konnagar, W.B. 712235, near Calcutta India). He is currently working on a cross-cultural project on the verbal and nonverbal abuses and insults. He is particularly interested in sharing papers and ideas with anyone who has looked at the sociobiology of abuses. To date he has collected data on the Bengali, Panjabi, English, German, and Hawaiian cultures (linguistic groups).

Glenn K. Wasek is affiliated with the National Asthma Center (1999 Julian St., Denver, Colorado 80204). He is the Clinical Training Coordinator and a research associate. His research interests include adult-infant social interactions, the development of smiling and laughing in infancy, nonverbal communication in

infancy, and the application of multivariate and sequential analysis techniques in ethological research.

Glendon Schubert is at the Dept. of Political Science, (Univ. of Hawaii at Manoa, Honolulu, Hawaii 96822) who is a National Science Foundation Faculty Fellow at the Netherlands Institute for Advanced Study in the Humanities and Social Sciences this year. He is studying the ethology of social behavior in non-human animals (especially birds) which he hopes to relate to human ethological studies of political behavior.

#### PAPERS & MANUSCRIPTS

Robert Deutsch is on the faculty of Rutgers Medical School (University Heights, Piscataway, New Jersey 08854). He recently published a monograph entitled Spatial Structurings in Everyday Face-to-Face Behavior: A Neuro-cybernetic Model, in Man-Environment Systems, (February, 1978). The monograph includes commentary by Michael Argyle and Mary Ritchie Key. It can be purchased for \$2.00 from the Association for the Study of Man-Environment Relations, P.O. Box 57, Orangeburg, New York 10962. Bob will be at the ABS meetings at Seattle in June.

Marc Bekoff is in the Dept. of Environmental, Population, and Organismic Biology, Ethology Group at the Univ. of Colorado, (Boulder, Colorado 80309). Many of you will remember Marc from the ABS meetings at Univ. of Colorado in 1976. A recent paper of his that may be of interest to several readers is entitled "Man" and "Animal" A Sociobiological Dichotomy? published in The Biologist, 1977, Vol. 59, pp. 1-10. In this paper Marc summarizes the historical and conceptual background for a Man-Animal dichotomy and discusses the several advantages of studying animals without imposing such a dichotomy.

The Human Ethology Abstracts II have been published in Man-Environment Systems, September, 1977, 7, 227-273. I extend my sincere appreciation to those of you who submitted your papers and manuscripts for inclusion. I also have a few copies remaining of the initial set of Human Ethology Abstracts. It is with some embarrassment that I must now charge \$1.00 for reprints of either collection.

Frans X. Plooij is at the Dept. of Developmental Psychology, University of Nijmegen (Nijmegen, Netherlands) and has written three interesting reports by the following titles: How wild chimpanzee babies trigger the onset of mother-infant play and what the mother makes of it; Some basic traits of language in wild chimpanzees?; and The development of pre-verbal communication in the mother-infant interaction-methodological aspects.

#### ANIMAL BEHAVIOR SOCIETY

You are encouraged to join ABS; it is a simple procedure. The cost is \$25.00 for regular membership and \$15 for student membership. Members receive the ABS newsletter and the journal published by the society, Animal Behaviour. Correspondence regarding changes of address, membership application, etc. should be sent to Dr. Richard Terman, Treasurer, Dept. of Biology, College of William & Mary, Williamsburg, Virginia 23185. Correspondence regarding Animal Behaviour (missing issues or back issues) should be sent to Tindall Bailliere 35 Red Lion Square, London WC1R 4SG, England. Correspondence regarding the ABS newsletter and general information should be sent to Devra G. Kleiman, National Zoological Park, Washington, D.C. 20008,

#### NEW BOOKS

##### Environment and Behavior

By Charles J. Holahan, The University of Texas at Austin

Environment and Behavior stresses the importance of adopting a dynamic perspective which focuses on the positive and active ways in which people deal with the environment. This book analyzes three different processes that mediate the effects of environment on behavior. The first section examines the process of environmental coping. It demonstrates the positive, adaptive ways in which people deal with environmental challenges in a public housing project, a university megadorm, and a psychiatric ward. The second part views the process of social accommodation, detailing the subtle and active behaviors people engage in even when negative environmental impacts cannot be avoided. Illustrative examples are

presented from an experimental hospital day-room, a university counseling setting, and the urban environment. The final section discusses the process of environmental schematization through which individuals impose personal meaning on their definition of the physical environment. Examples in this section are taken from research involving differences in environmental perception and errors in cognitive mapping. Approx. 160 pages, 1978, \$14.95.

### Human Behavior and Environment

Edited by Irwin Altman, Univ. of Utah and Joachim F. Wohlwill, The Pennsylvania State Univ.

#### VOLUME 1

CONTENTS: Attitudes, behavior, and environmental policy issues, Timothy O'Riordan. Environmental aesthetics: the environment as a source of affect, Joachim F. Wohlwill. Perception of landscape and land use, Ervin H. Zube. Motivational and social aspects of recreational behavior, David C. Mercer. Work environments, H. McIlvaine Parsons. Behavioral ecology, health status, and health care: applications to the rehabilitation setting, Edwin P. Willems. Environmental change and the elderly, Kermit K. Schooler, Index.. 301 pages, illus., 1976. \$18.95

#### VOLUME 2

CONTENTS: Multidimensional analysis in the study of environmental behavior and environmental design, Reginald G. Gollidge. Understanding professional media: issues, theory, and a research agenda, Donald Appleyard. Environmental stress, Richard S. Lazarus and Judith Blackfield Cohen. Applied behavior analysis and the solution of environmental problems, John D. Cone and Steven C. Hayes. Personal space: an analysis of E. T. Hall's proxemics framework, Irwin Altman and Anne M. Vinsel. Energy and the structuring of society: methodological issues, Samuel Z. Klausner. The use of social indicators in environmental planning, Stuart H. Mann. Index. 358 pages, illus., 1977. \$18.95

### Habitats, Environments, and Human Behavior

Studies in Ecological Psychology and Eco-Behavioral Science. The authors: Roger G. Barker, Louise S. Barker, Clifford L. Fawl, Paul V. Gump, Lauro S. Halstead, Arthur Johnson, Dan D. M. Ragle, Maxine F. Schoggen, Phil

Schoggen, Allan W. Wicker, Edwin P. Willems, and Herbert F. Wright.

PART ONE: FROM ECOLOGICAL PSYCHOLOGY TO ECO-BEHAVIORAL SCIENCE 1. Stream of Individual Behavior 2. Psychological Habitat 3. Standing Patterns of Behavior 4. Behavior Settings 5. Need for an Eco-Behavioral Science

PART TWO: STUDIES IN ECOLOGICAL PSYCHOLOGY 6. Day in the Life of Mary Ennis 7. Social Actions of American and English Children and Adults 8. Behavior Episodes of American and English Children 9. Environmental Forces on Physically Disabled Children 10. Disturbances Children Experience in Their Natural Habitats 11. Eco-Behavioral Approach to Health Status and Health Care

PART THREE: STUDIES IN ECO-BEHAVIORAL SCIENCE 12. Behavior Settings: Human Habitats and Behavior Machines 13. Impact of the Agricultural Extension Service on Midwest 14. Theory of Behavior Settings 15. Measures of Habitat and Behavior Output 16. Big Schools, Small Schools 17. Importance of Church Size for New Members 18. Behavior-Generating Machines: Models Midwest and Yoredale 19. Return Trip, 1977 \$13.95

### FORUM

Corrections: In the January issue of the Forum a clerical error was made in the paper by Carol Barner-Barry. The error was in the second paragraph; it should read... Where the standard is met, the behavioral interaction is classified as one involving authority; where it is not, the interaction is classified as one involving power...

The March issue of the Forum focuses on self-deception, and is a topic of special interest to Dr. Joan Lockard. This area has not been extensively discussed or studied by human ethologists, but the commentary that does exist is most stimulating, as is evident in this Forum. Papers outlining further development or commentary will certainly be considered for inclusion in future issues of the newsletter.

On the Adaptive Significance of Self-Deception  
Joan S. Lockard  
University of Washington, Seattle

Since only two colleagues responded to my request for input on this difficult topic, I have taken the liberty of paraphrasing from the literature a limited selection of succinct statements addressing this issue. Therefore I accept the responsibility for any errors in interpretation or any statements out of context which inadvertently have occurred. It should also be noted that this is a biased presentation to support my own views on the subject as represented, particularly, in the concluding paragraphs of this discourse.

When Wallace (1973) proposed his model of human deceit as an evolutionary mechanism, his basic assumption was that an accurate appraisal of one's environment is essential for high fitness. He reasoned, therefore, that one individual might increase his own relative fitness by causing a second (nonrelative) to misinterpret the environment. Dawkins (1976) carried this idea further by stating, in the forward of his book The Selfish Gene, that since deceit is fundamental to animal communication (obviously including human communication) then there must be strong selection to detect deception. He goes on to suggest that the probability of detection, in turn, ought to select for a degree of self-deception, rendering some facts and motives unconscious so as not to betray, by subtle signs of self awareness, the deception being perpetrated.

Alexander (1974) indicated another facet of this intriguing subject by speculating that natural selection may have consistently favored tendencies for humans to be unaware of what they are really doing or why they are doing it. In his concluding argument for parental manipulation as a biological concept, he proposed that if parental pressures for altruism in offspring have, during human history, led progeny to reproductive success, then such behavior represents a valuable social asset even when it derives from an inability to recognize the reproductively selfish intent of the behavior. In a similar vein, the present author (1977) has mentioned that proximal and distal explanations of the same behavior may often be superficially inconsonant with one another. I have suggested that it is quite likely that much of recent human evolution has entailed deceiving one's self into increasing one's fitness by providing proximal reasons (e.g. physiological

or cultural) to champion why it is one behaves in certain ways. For example, global concepts such as "being in love with your spouse" or "caring for your children" help span the difficult moments of a lover's quarrel or a defiant offspring.

Krakauer (1975) writes of still another aspect of self-deceit and one which is quite old to the psychological literature, i.e., rationalizations. He suggests (in a personal communication for this forum) that ego defenses (in the Freudian sense) include memory repression, reaction formation (containment of unacceptable feelings by overemphasis of their opposites), repression of emotion, denial (of an unacceptable area of external-reality), projection (attributing one's own unacceptable attitudes to others), turning against the self, dependent identification with another person, and regression to immaturity. He proposes self-deception as an unconscious function that enables the ego to consciously justify existence and maintain self-control.

In a paper on the search for a general theory of behavior, Alexander (1975) again speaks to the concept of human deceit in the following example:

"Consider two monogamous pairs co-operating or living in close proximity for some reason that represents reproductive advantage for both couples. If any resources are limited, any of the four individuals gains by securing for himself or his mate or both a disproportionate share. The profit in such behavior will depend on the likelihood and the significance of the risk to them of breaking up or reducing the effectiveness of the cooperation. When the relationship of individuals of the two sexes is considered, the same problem exists. Either male would gain reproductively by fathering as many of the total number of offspring as possible. Either female would gain, if she does not lose paternal behavior or her offspring in the process, by having her offspring fathered by the more fit of the two males. Any behavior of any of the four individuals short of full exhibition of whatever realization exists regarding such potential gains, and short of the behavior required to realize them, constitutes compromise, and constitutes lying to the extent that the motivation is in fact part of the involved individual's consciousness."

He goes on to say that it is not difficult to be biologically selfish and still appear to be sincere if one is sufficiently ignorant of one's own motives. An individual who is convinced he is right, with moral and ethical "mandates from Heaven," in acting in any way he may feel is necessary to exist within a social group, is functioning in an adaptive manner since his survival depends upon his sociality. Alexander emphasizes the importance of the concept of self-deception in understanding how man interprets his universe by stating:

"He will not see in himself what he does not wish to see, or what he does not wish his neighbors and fellows to see; and he is reluctant to see in other organisms what he will not see in himself. All of biology, all of science, all of human endeavors have been guided to some large extent by this circumstance."

In attempting to utilize the concept of inclusive fitness (Hamilton, 1964), it occurred to the present author that perhaps an even more profound human deception than self-fulfilling self-deceit was operating, namely, a genetic "conspiracy" to fool the organisms which perpetuate them. Ironically, it was while reading the last chapter of Dawkins' book (1976) that this idea began to crystallize. I was puzzled by why after such a marvelously readable presentation of genetic evolution in his first ten chapters, the author had felt it necessary to propose "memes" (long held ideas) as the basic unit of a parallel evolution, i.e., culture. In contemplating some likely explanations of his meme hypothesis--e.g., a note on which to end a profound book; a way of suggesting some hope for the future of mankind; or in rebellion to being a robot for genes (i.e., a gene machine)--an insidiously more awesome possibility presented itself. What if the most successful (in terms of inclusive fitness) gene machines are those who think (through self-deception) they know what genetic evolution is all about, but really don't. What better way to manipulate gene machines into looking out for the genes' interests than to allow a little knowledge to be acquired by their machines of how genetic evolution works but not enough to be undone by them. For if the robots were truly cognizant of such intricacies, could they not, if they so chose to, undo or reshape the very genetic process which was their making?

Now of course to resort to a genetic conspiracy per se is superfluous (it was used here only to quickly communicate an involved idea) in determining which organisms will survive, since mere competition among organisms for available resources would result in their differential reproduction. Yet in this competition, would not gene machines quite likely evolve who were optimally versatile (in terms of an open genetic program, Mayr, 1974) to reap the most from the environment but who could not undermine the three characteristics of successful replicators: coping fidelity, fecundity and longevity? In asking a colleague to put this question in terms of an evolutionary stable strategy, ESS, (e.g., see Maynard-Smith, 1976), Morgan (1977, personal communication) was instrumental in the following expose:

First, let us define three reproductive strategies: (1) Ignorance is Bliss (IB). The IB strategy is characterized by complete unawareness that we are merely automata acting in our gene's interests. The IB strategist reproduces as much as possible.

(2) The Rebel (R). The Rebel knows he/she is a gene machine, and just won't put up with it. The Rebel refuses to reproduce or if it decides to do so, changes some of its genes first.

(3) The Consenting Adult (CA). The CA strategist knows he/she is a gene machine, and strikes a compromise, reproducing a little, because it does feel good and there are all those biological predispositions to do so.

The first problem is whether the Rebel strategy can spread differentially. No. Obviously, if you don't reproduce, you don't leave genes behind; or if you reproduce with modified genes, then the characteristics of the most successful replicators are validated.

Now, how about the IB and CA strategies? CA cannot be an ESS unless we make some more assumptions. In particular, we might assume that CA's are ecologically better adapted than IB's, and that this adaptation will be genetically transmitted to their offspring. Each CA offspring will then be more valuable than an IB offspring, in the sense that it will be more likely to survive into and through adulthood and leave yet another generation of

genes behind. It will also be of more value to relatives, hence of greater weight in terms of inclusive fitness. In working these givens through with some numbers, let us assume that if two IB's mate, they produce three offspring, worth 15 genetic units each. If two CA's mate, they have two offspring, worth 20 genetic units each. Now suppose we have an IB/CA cross. Then the offspring are worth 17.5 each. But how many are there? Suppose the primitive "animal urges" of the IB mate are strong enough so that the CA strategist is tricked, manipulated or seduced into having three offspring.

Then the following payoff matrix results.

|    | IB                | CA                |
|----|-------------------|-------------------|
| IB | 3(15)<br>= 45     | 3(17.5)<br>= 52.5 |
| CA | 3(17.5)<br>= 52.5 | 2(20)<br>= 40     |

Inspection of this table clearly shows that an IB strategist is better off mating with a CA strategist than with another IB strategist, so IB is not a pure ESS. Similarly, a CA strategist is better off mating with an IB than another CA, so CA is not a pure ESS. The only stable ESS is some mixture of the two strategies.

The fractions of the population of IB and CA when an ESS is reached can be ascertained by taking the numeric values of each possible cross and solving for the fractions via three simultaneous equations:

Let  $i$  and  $c$  be the fraction of the population of IB and CA, respectively, and  $OC$  the genetic outcome (i.e., fitness) of their crosses when each cannot tell the difference between themselves from the outside.

From the IB by CA Table above

$$45i + 52.5c = OC$$

$$52.5i + 40c = OC$$

Since the fitness of IB and CA must be equal for an ESS to occur, then,  $45i + 52.5c = 52.5i + 40c$

$$12.5c = 7.5i$$

$$c = 3/5i$$

Since  $i + c = 1$  by definition

$$i + 3/5i = 1$$

$$i = 5/8$$

$$c = 3/8$$

An ESS is reached, then, when the IB's comprise 5/8 of the population and the CA's, 3/8. If this outcome were reality, it would seem that Dawkins himself was subject to self-deception in the closing sentences of his book:

"We are built as gene machines and cultured as meme machines, but we have the power to turn against our creators. We, alone on earth, can rebel against the tyranny of the selfish replicators."

However, some among us may prefer to take comfort in a statement by West-Eberhard (1975):

"The claim that a farmer who saves his brother's life benefits by the consequent increase of genetic alleles like his in the population, through kin selection, does not detract from the biological validity of the farmer's assertion that he did it to get help milking the cows."

In sending me this quotation, Adams (1978, personal communication) would contend that the converse is true as well. I suggest that perhaps the greatest self deception of all is our believing we will ever really know!

#### References

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