

Human Ethology Bulletin

<http://evolution.anthro.univie.ac.at/ishe.html>

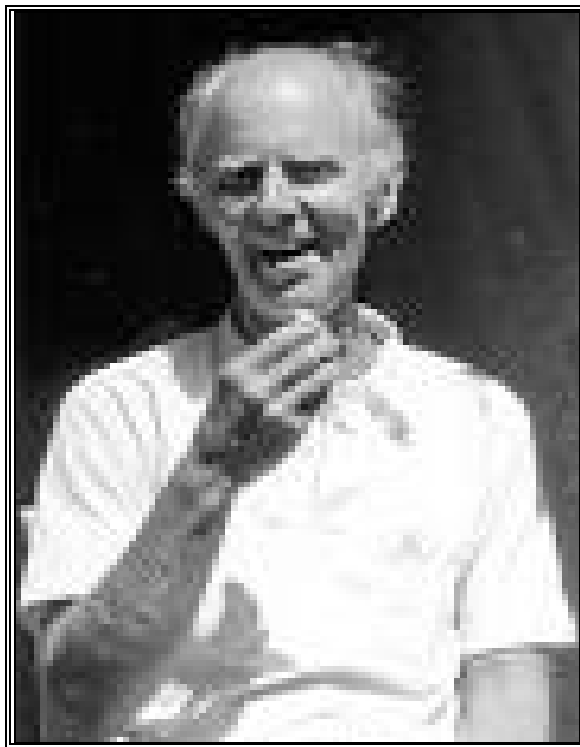
VOLUME 18, ISSUE 1

ISSN 0739-2036

MARCH 2003

© 2003 *The International Society for Human Ethology*

OWEN ALDIS LEAVES A LEGACY FOR A NEW GENERATION



OWEN FRANKLIN ALDIS (1926 - 2001)

A New Era Begins for ISHE

by Peter LaFreniere

As we go to press for this issue, I thought it fitting that I make some personal comments on the current state of ISHE as Johan van der Dennen prepares to take office for the next 3 years. As you know, due to the tragic loss of Linda Mealey, I was obliged to assume the duties of Acting-

President beginning in the summer of 2002. I now resign this temporary appointment by the Board of Officers having fulfilled my specific mandate. This included organizing the Montreal Conference, revising the ISHE by-laws along the lines that Linda Mealey initiated, creating a Board of Trustees, and securing the transfer of 1.436 million from the Estate of Owen Aldis, a former ISHE member residing in San Francisco, who passed away in 2001. He will long be remembered by ISHE members and his influence will be felt via the Owen Aldis Scholarship Fund, which we hope will benefit many students.

Owen Aldis came from an old and distinguished Chicago family; his father headed an important real estate management firm and was a trustee of the University of Chicago. His mother was a well known author of children's poetry and his grandfather on his mother's side was editor of the Chicago Tribune. The family members were close friends of Adlai Stevenson. He leaves three sisters, Mary Cornelia Porter, Margaret Westphal and Ruth Timberman.

Dr. Aldis taught economics at Yale and worked for an investment firm in New York before moving to the San Francisco Bay area to pursue a scholarly interest in Skinnerian behaviorial psychology. He received his Ph.D. in 1958 and was associated for more than a decade with the Behaviorial Science Research Fund, in Palo Alto, and later became a member of the International Society for Human Ethology. His most notable publication was the classic book, *Play Fighting* (1975), reviewed by Bill Charlesworth in this issue.

SPECIAL REVIEW

An ethological classic: Owen Aldis's first legacy

Play Fighting

By Owen Aldis. Academic Press, New York, 1975, 310 pages, ISBN 0-12-049450-7, (out of print).

Reviewed by Bill Charlesworth, P.O. Box 599, Stockholm, WI 54769.

This book is an ethological classic on play in humans and animals. It is a light read based on very heavy lifting - 1,500 hours of field observation of humans and 700 hours of animal observations (at 4 California zoos) plus 21.5 hours of films of playing humans, carnivores, monkeys, apes, ungulates, and pinnipeds.

It is also a delightful read. Aldis must have had great and exhausting fun in carrying out all of those observations, organizing and analyzing them and writing them up. However, readers would be misled if they thought this volume is just for popular consumption. It is, but it is also a significant contribution to the scientific literature. It illuminates many aspects of play behavior in a very credible, informative, and comprehensive way.

Thomas Power's (2000) extensive interdisciplinary coverage of play and exploration in children and animals (v. Peter Gray's review of Powers in the December 2002 issue of this Bulletin) reviews over 1600 contemporary studies. In the text itself, Powers mentions Aldis 42 times. This ranks Aldis's volume third in citations; the first ranked is Peter Smith (long-time ISHE member) and second ranked R. Fagen, both high-caliber contributors to the field.

Now the book is out of print, but libraries have it and if the publishers are savvy they will reprint it. It will be ideal for undergraduates and lay readers

and, better yet, for scientists, because it serves as an important bench mark for future research on play behavior. It can do all this not only because Aldis single-handedly did so much hard work but he did so with the knowledge of, and respect for, the work of those giants who preceded him—Mark Bekoff, Nick Blurton Jones, Eibl-Eibesfeldt, Diane Fossey, Robert Hinde, Jane Goodall, Konrad Lorenz, Steve Suomi, George Schaller, and Niko Tinbergen. In short, Aldis did good science. He built his thoughts and methods on the shoulders of giants before charging out to do his thing. Today, in this ahistorical, self-validating era such an effort is refreshing.

So what is so good and singular about this book? First, Aldis took a calculated and (in my mind) a very perceptive conceptual stance to satisfy his curiosity about play. After studying under B.F. Skinner (who, if anything, was diamond clear about defining behavior) and having his interest in play "awakened" by Harry Harlow's work with rhesus monkeys, Aldis adopted several precepts of ethological research—"elementary" observation which leads to description and classification accompanied or followed by several questions ethologists commonly ask: How can we define play as scientifically as possible? How did play evolve? And what are the functions of play?

The second good thing Aldis does is make an important comparison. He compares ethological methods with those used by psychologists of his time and he found differences. Compared to psychologists, ethologists do much more naturalistic observation and description (and in the process try to be as comprehensive as possible), concerned themselves with function and evolution, hardly ever relied on quantification and statistical tests of significance, and did relatively little manipulation of causal factors. Today, these differences are not so pronounced. Better economic conditions for research fortunately allow methodological pluralism to flourish in the behavior sciences. But the differences are still there, "Vive la difference!"

Aldis's main strategy, in one respect still holds as decisive for present ethological research—take time to watch, record and watch again, seek to be comprehensive, make species/age and other comparisons, be and clear in your definitions and descriptions so others can check your work. And

do all this on phenomena occurring outside of experimentally-restraining conditions.

Experiments can come later. It is what is happening freely in the world that is important to know, especially if you want to test evolutionary theory. Natural selection operates on events in the natural world not on transient contrivances.

The third good thing Aldis does is provide us with a rich empirical picture of play behavior in many species-humans and at least 25 other species. His chapters on non-human species include chasing, mouthing, wrestling, "predatory specializations" (ambushing, stalking, seizing prey), rotation/sliding and "vestibular reinforcement", solitary object play, exploration and manipulation, competition for objects, play signals, play groups, sex differences, adult play and play motivation. His human play observations cover "wrestling from a superior position", fragmentary wrestling, hitting and kicking, swimming pool play, chasing, vestibular reinforcement, mother-infant play, "play fear reinforcement", play and child rearing. Then in the third to last chapter he compares human and animal play.

Fortunately, Aldis's overall effort is not just a wild empirical bonanza: he covers most, if not all, of the conceptual and interpretive issues facing those studying play behavior. For example, he carefully analyzes the purported functions of play ranging from "training for predatory specializations," training for locomotion or social skills, adding to physiological development, getting rid of surplus energy, to learning about the environment and for just plain pleasure.

All this in just 302 pages! So, for sure, this book is superficial in many places-many observational reports are sketchy and hardly equivalent in treatment. But what he does cover will appear familiar and credible to experts and interesting and intriguing for non-experts. For these reasons, this volume is a must read for anyone entering the field for the first or second time. Like good ethological treatises, what is reported is actually the case. Like good anthropologists, ethologists get the facts on their subject matter. Goodall's observations of Gombe chimps and Eibl's film records of humans refer to events that may be

subject to new interpretation (pace constructionists) but still remain facts.

The volume also has photos (tailing-pulling monkeys, pirouetting and somersaulting chimps, laughing kids, chasing and hitting boys), several sketches of animals, and some comics (small boys engaged in "hand-to-hand fighting" is one of my favorites). All these are now dated by fashion and quality and by the impressive technological advances that have taken place since the early 1970's. Not to be dated, however, are quotes from Alexander Fleming, Mark Twain, Lewis Carroll, Evelyn Waugh, B. F. Skinner, Charles and Francis Darwin, and the "Old Testament". As I noted above, Aldis must have had great fun writing this book.

One parting shot. Aldis dedicated his book to "..the new generation studying behavior." What an appropriate dedication to today's International Society for Human Ethology! Let us hope that young researchers benefitting from Aldis's second legacy to ethology will take up where he has left off. We still need to know much more scientifically about all kinds of behavior out there in the greater world.

Reference

Power, T. G. (2000). Play and Exploration in Children and Animals. Lawrence Erlbaum.

Bill Charlesworth is Professor Emeritus of the Institute of Child Development, University of Minnesota, and former president of ISHE. He has done too many naturalistic observations and film recordings of children's behavior to be shy about advocating field work. While he likes evolutionary theory, his motto is "**Follow the duck, not your theory of the duck**".

{photo of a duck}

SOCIETY NEWS

At no time in the 30 year history of the society has ISHE been able to field a team with such extensive experience as we now do. Johan van der Dennen assumes the ISHE presidency and is already occupied with the hosting of the 2004 ISHE conference in Ghent. Joining the Board of Officers in the critical position of Vice-President is Glenn Weisfeld, longtime ISHE member and former HEB Editor. Returning for a second term as Membership Chairperson is Astrid Juette. Also joining the ISHE leadership are the five members of the Board of Trustees listed below, who together have accumulated more than a hundred years of active participation and leadership in ISHE since the founding of the society in 1972. Welcome to all!

By unanimous agreement of the Officers and the Board of Trustees, we establish as our first priority for the ISHE Endowment, the sustained support of graduate students and future ISHE scholars and researchers. See the next page for the announcement of the 2003-2004 Owen Aldis Scholarship Fund.

ELECTION RESULTS

VICE-PRESIDENT/PRESIDENT ELECT

Glenn Weisfeld

MEMBERSHIP CHAIR

Astrid Juette

BOARD OF TRUSTEES

Russell Gardner

John Richer

The Board is also composed of Past-Presidents,

Irenaus Eibl-Eibesfeldt

William Charlesworth

Charles Crawford

Officers of the Society

President

Johan van der Dennen
(see Editorial Staff box)

Vice-President/President-Elect

Glenn Weisfeld
Wayne State University
71 W. Warren
Detroit, MI 48201 USA
Tel: 1-313-577-2835
Fax: 1-313-577-7636

Vice-President for Information

Peter LaFreniere
(see Editorial Staff box)

Secretary

Frank Salter
Max Planck Society
Von-der-Tann-Str. 3
82346 Andechs, Germany
E-mail: salter@humanethologie.de

Webmaster

Karl Grammer
Ludwig-Boltzmann-Institute
for Urban Ethology/Human Biology
Althanstrasse 14
A-1090 Vienna, Austria
tel. 49-815237355
e-mail: karl.grammer@univie.ac.at

Treasurer

Dori LeCroy
PO Box 418
Nyack, N.Y. 10960 USA
DoriLeCroy@aol.com

Membership Chair

Astrid Jütte
Konrad Lorenz Institute
Adolf Lorenz Gasse 2
A-3422 Altenberg, Austria
e-mail: astrid.juette @kli.ac.at

**The International Society for Human Ethology
is pleased to announce graduate research scholarships
in Human Ethology for the year 2003-2004.**

The **Owen F. Aldis Scholarship Fund** was established to support graduate studies in human ethology by assisting promising students in their research. The fund is administered by the Board of Trustees of the International Society for Human Ethology (ISHE) in collaboration with the ISHE Board of Officers. Up to ten students may be awarded an Owen F. Aldis Scholarship for 2003-2004.

Goals: Nurturance of excellent students by encouraging empirical research in all fields of human behavior using the full range of methods developed in biology and the human behavior sciences and operating within the conceptual framework of evolutionary theory.

The scholarships are intended to support scholarly work that contributes to the advancement of knowledge and learning in human ethology, broadly conceived. Human ethology investigates the proximate causation, ultimate causation, ontogeny and phylogeny of evolved human behaviors and their variants. Naturalistic observational studies are especially encouraged. In some cases, studies involving non-human species may be considered, if their relevance to human behavior is made clear.

Selection Criteria: (details will be posted at the ISHE web site by March 1, 2003)

A stipend not to exceed US\$5000, to be applied to documented, legitimate research costs (e.g., equipment, supplies, books, computer software), plus a travel stipend not to exceed US\$1000 to attend the biennial ISHE congress. The travel stipend may be applied to documented costs of travel, lodging, board (US\$30 per diem), and registration. No more than one award will be given to any one institution per year. Progress report and/or results are expected to be presented at the 2004 ISHE congress.

Travel stipends will also be awarded to some of the runners-up to attend the 2004 ISHE conference, depending on the availability of funds.

Eligibility: Graduate (predoctoral) students, in any academic discipline related to Human Ethology, who are in good standing as certified by their academic advisor or director are eligible. Applications must be submitted in English.

Deadline for Application: June 30, 2003

Awards announced: September 1, 2003

For complete application guidelines, please visit the ISHE website at
<http://evolution.anthro.univie.ac.at/ishe.html>

BOOK REVIEWS

Darwin's Cathedral: Evolution, Religion, and the Nature of Society

By **David Sloan Wilson**. University of Chicago Press, 1427 East 60th St. Chicago, IL 60637, 2002, 268 pp., ISBN 0-226-90134-3, Hardback, \$25.00

Reviewed by **Kevin MacDonald**, Department of Psychology, California State University-Long Beach, Long Beach, CA 90840-0901 [Email: kmacd@csulb.edu]

David Sloan Wilson is something of a quixotic figure in the field of evolutionary approaches to human affairs. For most of his professional life he has battled what has become a rigid orthodoxy against seemingly hopeless odds. The orthodoxy is that natural selection operates more or less exclusively at the individual level, and that natural selection between groups is a trivial phenomenon that has not left any important mark on the architecture of the human mind or on human history. It is a topic that the vast majority of evolutionists simply relegate to unquestioned dogma, their eyes glazing over at its mere mention. After all, it was the seeming resolution of the debate over individual versus group selection that gave rise to the revolution in evolutionary biology of the 1960s and 1970s. We're talking basic, bedrock theory here—an area where changes are not to be taken lightly. If the past is any indication, the continued life of this orthodoxy will not change with the publication of *Darwin's Cathedral*. If so, it won't be because the arguments and data compiled by Wilson are not compelling. In any case, Wilson is confident of the future of groups in evolutionary thought: "I believe that future generations will be amazed at the degree to which groups were made to disappear as adaptive units of life in the minds of intellectuals during the second half of the twentieth century" (p. 46). I can only agree wholeheartedly.

Wilson's basic claim is that religions are organisms designed to attain evolutionary ends of survival and reproduction. Religious organisms achieve these aims because of group selection processes in which religious groups are favored because they are able to successfully promote behavior that is individually disadvantageous but advantageous to the group. Particularly important for the viability of individually disadvantageous behavior in groups are social controls, conceptualized here as a form of low cost altruism. Group selection has always had to deal with the albatross that people and other organisms do not voluntarily engage in self-sacrificing behavior, at least not readily and not frequently. In the absence of social controls, egoistic behavior is expected to replace altruism, leading to the expectation that there will be a strong residue of egoism as a holdover from our evolutionary heritage. However, groups can impose controls that enforce public goods, such as paying taxes or submitting to authority, and people can develop groups where even the leaders are thoroughly scrutinized to ensure that group interests prevail over individual interests. Such controls — termed secondary public goods — are low cost, and their low cost effectively cuts "the Gordian knot by partially relaxing the trade-off between group benefit and individual cost. Social control mechanisms are obviously relevant to religious groups, which are based on much more than voluntary altruism" (p. 20). Via social controls effective groups may be developed with significant degrees of in-group altruism even in the absence of high levels of genetic overlap. The result is "a complex regulatory system that binds members into a functional unit" (p. 25).

Besides social controls, religion is characterized by an ideological superstructure: the beliefs that often seem exotic but, as Wilson exhaustively details, often function to motivate group-benefiting behavior. Rather than depend exclusively on an elaborate set of social controls maintained by monitoring and punishment, group-benefiting social behaviors are often voluntarily engaged in because not to do so is to risk the wrath of God or incur some other spiritual cost. For example, Calvin developed a belief system that stressed motivated compliance to authority. As such, it may be regarded as an adaptation that created a cohesive group by

lowering the cost of monitoring individual behavior: "If religious faith plays a role in motivating [behaviors such as obedience to authority], and if these behaviors cause the group to function as an adaptive unit, then faith counts as an adaptation" (p. 102). Thus by developing compelling ideologies that motivate altruistic, group-benefiting behavior, and by monitoring and enforcing compliance, human groups are able to overcome the profound tendencies toward egoism that have generally prevented the evolution of similarly cohesive, altruistic groups among animals.

Evolutionists who acknowledge the importance of groups as functional units of selection are also less inclined to adopt that other dogma of contemporary Darwinism: evolutionary psychology and its commitment to a human psychology composed more or less exclusively of domain specific mechanisms designed to solve problems recurrent in our evolutionary past. Here Wilson points to the incompleteness of such a psychology. Indeed, the "jukebox theory" of cultural variation promoted by Tooby and Cosmides (1992) seems little more than a hopeful gesture rather than a serious attempt at theorizing. It seems utterly incapable of even the most rudimentary explanation of religion in its many varieties. I agree with Wilson that in addition to modules designed to solve evolutionarily recurrent problems, the mind also contains a variety of open-ended mechanisms for solving novel problems, chief among them general intelligence (MacDonald, 1991; Chiappe & MacDonald, 2003). As Wilson notes, a prime function of human groups is to solve novel problems of adaptation in a constantly changing environment: "Confront a human group with a novel problem, even one that never existed in so-called ancestral environments, and its members may well come up with a workable solution" (p. 31). Interestingly, Wilson explicitly describes Calvin, who designed the religion that bears his name, as a former scholar and as more intelligent than his theological adversaries (p. 90). Surely the design of Calvinism as an adaptive system of beliefs and social controls was the work of a highly intelligent person; few people would have the intelligence and other talents required for devising a belief system that resulted in Geneva, a city of 13,000 people, functioning effectively as an

organized group. (The same might be said for the priests who designed the Jewish religion while exiled in Babylon 2600 years ago, or the 19th century founders of Mormonism.)

Nevertheless, intelligence is not the whole story. Religious beliefs are often the height of irrationality. Wilson's example is Calvin's belief in the imminent coming of Jesus. Besides intelligence, open-ended belief-generating mechanisms are of critical importance. As Wilson documents, religious beliefs, combined with methods of monitoring and enforcing social norms, can have an extraordinary effect on social organization and can result in higher levels of between-group selection than could possibly exist in other species. It goes without saying that people need not be conscious of the role of their beliefs and norm-monitoring in producing successful groups.

An important issue is whether the mechanisms underlying human abilities to enforce social controls and their proclivity to adopt religious ideologies evolved as a result of natural selection for altruistic groups, or were simply a by-product of natural selection for domain general mechanisms that evolved for other reasons, such as solving novel problems. After all, ideologies, including at least some religious ideologies, often rationalize egoistic behavior, and social controls have often been used to enforce despotisms. It is the very open-endedness of these mechanisms that makes them at once so powerful and so dangerous—powerful because they can rationalize and enforce virtually anything, and dangerous because they may lead to behavior that is highly maladaptive. People may be socialized or constrained to do things that are massively opposed to their own interests (slavery comes to mind), and their group may be poorly designed to achieve long term success. Religions, like all social organizations where social controls and ideologies play an important role (i.e., virtually all human social organizations), are experiments in living. Nevertheless, there is every reason to suppose that the power of these domain general mechanisms may also be utilized to rationally construct vehicles of adaptation that would further individual and ethnic group interests over the long run, even in the multi-cultural complexity of the modern world.

I do not want to give the impression that the open-ended, domain general mechanisms discussed here are the only psychological mechanisms relevant to religion. Wilson's emphasis on the sociology of religion draws him away from the psychology of groups for the most part, but he does review research on social identity theory as a set of psychological mechanisms that result in positive perceptions of in-groups and negative perceptions of out-groups. Other more domain specific psychological mechanisms related to ethnocentrism and other manifestations of group allegiance are also undoubtedly important for a complete psychological analysis of religion (MacDonald, 2003).

Groups are notoriously prone to the in-group/out-group thinking that motivates self-righteous violence—not surprising if groups evolved as a result of between-group competition. Here Wilson describes the “dark side” of groups—their tendency to compete with other groups, to go on wars of conquest, and even to exterminate people from out-groups. Whatever else one might say about group selection theory, it does not result in portraying humans as altruists *simpliciter*. Humans are sometimes altruistic within their own group, but with the support of powerful ideologies and social controls that motivate compliant, group-serving behavior, and always with a great deal of backsliding.

The balance of the book describes religions as imperfect groups—imperfect in the sense that they often approach but seldom attain the pure level of altruistic group functioning that is often idealized in religious thought. This is because of the pull of egoism: Whatever evolved tendencies human might have to participate in well-functioning, cohesive and even altruistic groups, there are also powerful tendencies toward egoism that must be constantly monitored and controlled.

Calvinism is given a chapter-length treatment as a paradigm of a religion that functioned to achieve secular utility. Other religions described include the Water Temple system of Bali, Judaism, and the early Christian Church. In all of these cases Wilson shows that religion functions to organize groups in very practical ways to achieve secular ends. Particularly interesting is the discussion of early Christianity based on the work of Rodney Stark (1996). Early

Christianity emerges as a non-ethnic form of Judaism that functioned as a way of producing cohesive, effective groups able to deal with the uncertainties of the ancient world. The ancient world was a very unpredictable place indeed, characterized by natural disasters such as earthquakes, fires, rioting, epidemics, brutal military campaigns against civilians, famines, and widespread poverty. Navigating this world was greatly facilitated by co-religionists ready to lend a helping hand and to establish economic alliances. Wilson has no hesitation in supposing that Christian charity in extending aid to fellow Christians suffering from the plague involved altruism, as indeed it did. But the result was that more Christians survived these disasters than did Pagans: Christianity was adaptive at the group level. The adaptiveness of Christianity also stemmed from its emphasis on several attitudes that were notably lacking in the Roman Empire: encouragement of large families, conjugal fidelity, high-investment parenting, and outlawing of abortion, infanticide, and non-reproductive sexual behavior. The bottom line is that Christian women did indeed out-reproduce Pagan women. Other obvious examples of religiously mandated fertility and family-promoting values in the contemporary world are the Amish and Hutterites, the Mormons, and Orthodox Jews. All of these religions are characterized by social controls and religious ideologies that promote adaptive behavior at the group level.

Finally, Wilson has a very enjoyable writing style. The following passage is a good illustration, and it sums up his view of religions as intricately adaptive biological entities:

Biologists frequently express a feeling of awe, bordering on religious reverence, toward the intricacies of nature; the cryptic insect that exactly resembles a leaf, the fish that glides effortlessly through the water, and the amazing physiological processes that allow organisms to defy the forces of entropy. The organismic concept of groups makes possible a similar sense of awe toward religion, even from a purely evolutionary perspective. (p. 4)

References

Chiappe, D., & MacDonald, K. B. (2003). The Evolution of Domain-General Mechanisms in Intelligence and Learning. *Psychological Inquiry*, 14(4), in press.

MacDonald, K. B. (1991). A perspective on Darwinian psychology: The importance of domain-general mechanisms, plasticity, and individual differences. *Ethology and Sociobiology*, 12, 449-480.

MacDonald, K. B. (2003). An integrative evolutionary perspective on ethnicity. *Politics and the Life Sciences*, in press.

Stark, R. (1996). *The rise of Christianity: A sociologist reconsiders history*. Princeton, NJ: Princeton University Press.

Tooby, J. & Cosmides, L. (1992). The psychological foundations of culture. In J. Barkow, L. Cosmides, & J. Tooby (Eds.), *The adapted mind: Evolutionary psychology and the generation of culture* (pp. 19-136). New York: Cambridge University Press.

Kevin MacDonald is Professor of Psychology at California State University-Long Beach. He completed his doctoral research at the University of Connecticut in the Department of Biobehavioral Sciences. His research has focused on evolutionary psychology, especially evolutionary approaches to human development and personality psychology. He also studies groups and ethnic relations from an evolutionary perspective.

Facial Attractiveness: Evolutionary, Cognitive, and Social Perspectives

Edited by **G. Rhodes & L. A. Zebrowitz**. Ablex Publishing, Westport, CT, U.S.A., 2002, x + 311p. ISBN 156750-6372 [pbk; \$39].

Reviewed by Thomas R. Alley, Department of Psychology, Clemson University, Clemson, SC 29634-1355, USA.

This book is the first volume in a new series, *Advances in Visual Cognition*, edited by Gillian Rhodes. Starting from the well supported premise that the evaluation of facial attractiveness is, in part, objective and perhaps innate, the book's nine chapters cover cognitive, social, evolutionary and social perspectives on facial beauty. Although scientific approaches to facial attractiveness have provided an abundant literature on both the determinants and consequences of facial attractiveness (Alley & Hildebrandt, 1988), the contents of this volume are clearly more focused on the determinants. The editors' brief introduction provides proper forewarning that some of the findings and conclusions are "controversial, and some are even paradoxical".

Chapter 1 finds the authors of the widely cited paper, "Attractive faces are only average" (Langlois & Roggman, 1990), joined by Adam Rubenstein, taking a strong position on the importance of averageness. The evidence to support this position is now stronger than it was in 1990. Nonetheless, they ultimately present a less extreme view than that captured in the title of the 1990 paper, concluding that "averageness is [only] essential to facial attractiveness" (p. 21), and explicitly allowing for the influence of other factors such as youthfulness and symmetry. The chapter begins, appropriately, with a good overview of the evidence for universals in facial attractiveness. In between, they review the evidence for the attractiveness of average faces, address a number of criticisms of their position, and discuss possible mechanisms underlying facial preferences.

This chapter appears to provide compelling support for their conclusion that averageness is fundamental to facial attractiveness, being "the only characteristic discovered to date that is both necessary and sufficient to ensure facial attractiveness" (p.21). However, the empirical support for this position is largely built upon data obtained using computer graphics to manipulate (e.g., "average") facial appearance. Other researchers, often using different techniques, have reached different conclusions. Fortunately, several representatives of alternative positions are included among the other authors in this volume.

Some of the claims made in Chapter 1 are immediately challenged in the following chapter (as well as in later chapters) on the cross-cultural evidence and possible biological basis of the attractiveness of average faces. Here, G. Rhodes and colleagues note that average facial configurations, both male and female, can be made more attractive by becoming more feminine. Furthermore, they raise the issue of whether "the youthful appearance of average faces accounts for their appeal" (p. 37). They note that several studies support this position in finding that averaged faces tend to appear more youthful. The most insightful research on this issue is found in a paper that, unfortunately, is not used for any of the discussion in this book (O'Toole et al., 1999). O'Toole's research group has used state of the art computer graphic procedures to create 'average' faces, revealing that average faces are judged to be both more attractive and younger, and that the attractiveness of faces is increased by making them more average even when the increased youthfulness is taken into account. Getting back to the book at hand, the bulk of Chapter 2, however, presents the results from two experiments that show the attractiveness of average faces in non-Western cultures. More specifically, both Japanese and 'Chinese' individuals saw average own-race configurations as attractive.

A focus on the controversial issue of attractiveness and averageness continues in Chapter 3 where a group of Scottish researchers (Little, Penton-Voak, Burt & Perrett) add another layer of complexity to an already complex issue: they tackle the question of modifications of women's preferences for male faces by menstrual cycle shifts and self-perceived attractiveness. [See

Penton-Voak and Perrott (2000) for a broader overview of individual differences.] The most important point here may be that women's preferences do change across their cycles, with the strongest preference for favorable heritable facial characteristics (masculinity) occurring when conception is most likely. This chapter also contains a fine overview of the "three main factors" proposed to advertise "biological quality" (i.e., potential reproductive benefits) in human faces: symmetry, averageness and secondary sexual characteristics. However, there is at least one more major factor, youthfulness, which is directly tied to reproductive potential. Although neglected here, this factor is addressed in other chapters. Given an evolutionary perspective, these factors are also the main, and not mutually exclusive, candidates for determining facial attractiveness.

In Chapter 4, the research issues are again expanded, to a point stretching the boundaries of the topic captured in the book's title. Here, Karl Grammer and colleagues examine the determinants of female physical attractiveness, presenting the results of research using photographs of 92 nude Caucasian women. The responses of men to faces alone, and to the whole body seen from either the front or the back, are examined separately. This ambitious and exploratory project tackles more than can be adequately dealt with in a single chapter (let alone, this review), but reveals a likely path for future research that considers the attractiveness of overall physical appearance: A question with more ecological validity than the questions about the attractiveness of contextless faces. The chapter also raises the point that preferences may be more guided by a tendency to "avoid the ugly" than to "seek the attractive".

The following chapter, "An Ethological Theory of Attractiveness" (Enquist et al.), departs from the common view within evolutionary psychology of facial attractiveness as a signal of mate quality (see Thornhill & Gangestad, 1999). Instead, the authors suggest that facial preferences are a by-product of mechanisms developed for recognition (of species, age, sex, etc.). The authors may be premature in concluding that facial attractiveness is not correlated with genetic or phenotypic quality and, therefore, that the mate quality hypothesis is incorrect. This is a complex

issue with apparently mixed results and should not be considered settled until it has been more thoroughly examined. An adequate research basis must include consideration of the predictive value of numerous physical characteristics and combinations of characteristics for a variety of measures of biological quality (cf. Grammar et al., Chap. 4). Mate quality and recognition mechanisms are not mutually exclusive accounts of face preferences, and the latter may help us understand the variation in preferences seen across cultures and the importance of learning processes.

In Chapter 6, Caroline Keating discusses charismatic faces. "Charisma", operationally defined here as status cues indicative of maturity, clearly differs from the dimension of physical (often sexual) attractiveness that is addressed in the other chapters but does represent a form of attraction to faces. Furthermore, the discussion of the attractiveness of status cues is interwoven with physical attractiveness issues in this chapter. Major benefits of her chapter include the emphasis on context-dependent aspects of face appeal, and the highlighting of the important influence of social status cues.

The chapter by Cunningham, Barbee and Philhower presents a commendable attempt to view facial attractiveness as an outcome of both biological and cultural factors. They present a Multiple Fitness model of physical attractiveness: an integrated, multi-dimensional model that sees the combination of a variety of physical features and attributes as determinants of attractiveness judgments, with some (but not all) of these qualities being universal. The model also incorporates individual and cultural differences, and tolerance for a variable impact of "physical attractiveness cues". Along the way, they address measurement issues, controversy surrounding the idea of objective standards of beauty, aesthetic artifice and deception, and the relative importance of physical attractiveness in mate choice. Wow! This could be a book in itself. This *tour de force* is the longest chapter in the book, and rightfully so.

In the penultimate chapter, Karen Dion switches the focus to the consequences of attractiveness. More specifically, Dion discusses cultural variation in the attributions triggered by

facial attractiveness. She manages to address all of the major issues of cultural variation in a rather short chapter.

Finally, the editors provide a chapter that tackles some key questions before ending with a few general conclusions. The key questions include "Why study facial attractiveness?", how it should be conceptualized and measured, and how to explain attractiveness (mechanisms). They also review evolutionary, cognitive and social explanations of facial attractiveness. Like Enquist et al. (Chap. 5), they are too quick to dismiss the "good genes" (i.e., mate quality) explanation, citing just two studies that failed to find supportive results. The most disappointing thing about this final chapter, and the book as a whole, is not what they do discuss but, instead, the insufficient integration of the often disparate views proffered by the authors of the first eight chapters (see below). This chapter does summarize and critically discuss many of the ideas and viewpoints proffered in the preceding chapters. Moreover, some issues, such as the interrelationships of different kinds of attractiveness, lack sufficient data to support firm conclusions. Nonetheless, the editors should have attempted to present a more decisive critical overview of the combined results and arguments of the varied group of contributors. Consider the fact that much of the recent research reviewed and presented in this volume relies on complex computer techniques fraught with hidden weaknesses, technical problems, and difficulties of interpretation. These problems are sometimes overlooked by researchers but highlighted by their critics. Some points of view are better supported than others. Consequently, a clearer picture of the nature of facial attractiveness may emerge if the totality of results were analyzed with the methodological strengths and weaknesses in mind. The editors do acknowledge that the various points of view presented in this book are imperfect; each has flaws, weaknesses or insufficient support. But some claims are better supported than others, and I had hoped the editors would more vigorously try to evaluate the relative merits of contrasting or conflicting views.

In sum, this book represents a fine start to a new series. While the book has a useful combined author/topic index, this index is plagued by numerous omissions of both citations and topics.

There is a fair amount of redundancy with, for instance, most chapters summarizing an evolutionary perspective on facial attractiveness. This redundancy does make each chapter suitable for stand alone reading. Most of the book's chapters are quite strong and, as the title implies, it brings together a variety of perspectives on facial attractiveness. The chapters are thoughtfully ordered and, with one exception, well-written. Some of the inconsistencies and disagreements across chapters reflect the tendency of contributors to challenge others' assumptions, a highly desirable characteristic for edited volumes such as this one. Finally, this book provides an excellent single source of the main theories and data underlying current discussion of this topic. Those interested in scientific approaches to facial attractiveness or, more generally, human ethology and evolutionary psychology, will be pleased to have this in their library.

References

- Alley, T. R., & Hildebrandt, K. A. (1988). Determinants and consequences of facial aesthetics. Pp. 101-140 in T. R. Alley (Ed.), *Social and Applied Aspects of Perceiving Faces*. Hillsdale, NJ: Lawrence Erlbaum Associates.
- Langlois, J. H. & Roggmann, L. A. (1990). Attractive faces are only average. *Psychological Science*, 1: 115-121.
- O'Toole, A. J., Price, T., Vetter, T., Bartlett, J.C., & Blanz, V. (1999). 3D and 2D surface textures of human faces: the role of "averages" in attractiveness and age. *Image and Visual Computing*, 18: 9-19.
- Penton-Voak, B., & Perrott, D. I. (2000). Consistency and individual differences in facial attractiveness judgements: An evolutionary perspective. *Social Research*, 67: 219-244.
- Thornhill, R., & Gangestad, S. W. (1999). Facial attractiveness. *Trends in Cognitive Science*, 3: 452-460.

Thomas R. Alley is Professor of Psychology at Clemson University and Chief Book Review Editor

for this publication. He earned a Ph.D. in Experimental Psychology from the University of Connecticut. He has published a variety of papers on human physical attractiveness.

Breaking the Slate

The Blank Slate: The Modern Denial of Human Nature

By **Stephen Pinker** Viking Press, 375 Hudson Street, New York, NY 10014, USA, 509 pages. ISBN 0-670-03151-8 [Cloth, \$27.95].

Reviewed by **Nicholas Nicaastro**, Dept. of Psychology, Cornell University, 243 Uris Hall, Ithaca, NY, 14853. [E-mail: nn12@cornell.edu]

It's been an eventful season in the culture wars. In October 2002, an important re-examination of the data for Franz Boas' 1912 survey of immigrants and their children was published in the *Proceedings of the National Academy of Sciences* (1). Boas' original study supposedly proved environmental effects on human cranial shape to be far more important than heredity, and has been cited for 90 years by sociocultural anthropologists to argue that racial types have no physical basis. But Corey Sparks and Richard Jantz's re-examination of the original data, using modern statistical techniques, shows that Boas got it wrong. Indeed, he may even have "shaded" his analysis to reach the politically palatable conclusion. Boas, of course, was the mentor of Margaret Mead, that key promulgator of cultural determinism whose own ethnographic work has also been critically reconsidered in recent years (2). Boas was undoubtedly correct to oppose the explanatory relevance of racial types in *fin de siècle* anthropology. But the new study does prompt the question, as *The New York Times* suggests, whether "an earlier generation's efforts to play down the role of genetics in fields like behavior and racial variation may not have been carried to extremes." (3).

The Sparks/Jantz study bears direct implications for the controversial legal case over the so-called Kennewick Man, which was finally decided in August after six long years. In that case, a 9,400 year old skeleton accidentally discovered on the banks of the Columbia River near Kennewick, WA was the object of a bitter court fight between several Indian tribes and the U.S. Department of the Interior on one side, and eight physical anthropologists on the other. Citing evidence of extreme antiquity and cranial characteristics that diverge significantly from modern Native Americans, the scientists sued to prevent the Department of the Interior from handing the skeleton over to the tribes. The tribes, asserting that Kennewick Man was their direct ancestor, wanted the bones reburied without further study. They were abetted in this view by certain currents in sociocultural anthropology, wherein all knowledge claims about the past, from those based on empirical science to tribal oral history, are equally valid expressions of culturally embedded "value orientation." But in his ruling, Federal magistrate John Jelderks upheld the scientists' suit and sharply rebuked the Department of the Interior (4). Where Interior and the tribes had argued that under current law only the Indian claimants' version of history had standing, the judge ruled that nothing in the law subordinated what actually happened in the past to what certain groups find congenial to *believe* happened.

Last, and by no means least, we have a new and inevitably best-selling broadside by cognitive psychologist Steven Pinker (*The Language Instinct, How the Mind Works*). Pinker's *The Blank Slate: The Modern Denial of Human Nature* is a polemic against what he (among others) calls "the secular religion of modern intellectual life." This doctrine, "...seldom articulated or overtly embraced..." is specifically "...the idea that the human mind has no inherent structure and can be inscribed at will by society or ourselves." Pinker attributes belief in the blank slate to a considerable number of academics in anthropology, cultural studies, certain elements within psychology, gender studies, and an extended cohort of like-minded advocates, activists, critics, and policy-makers.

Of course, nobody would ever admit to believing that the human mind begins as straight

pudding. What Pinker seems to be attacking is what might be called a *blank slate ideology*, which tends to play down explanation due to the traits, affordances, constraints, et al. of our natural endowment (whether from genetic, developmental, or environmental invariants) in favor of socio-cultural factors. It is, moreover, a predisposition to suspect the political motives of anybody who "naturalizes" the study of human beings. In practice, it is often tantamount to a kind of moral exhibitionism, where the hypotheses of evolutionary psychologists are stamped as dangerously immoral, though they may be right, in favor of a "culturalizing" anthropology, which may be wrong but is self-evidently "good":

The thrust of the radical science movement was to moralize the scientific study of the mind and to engage the mentality of taboo. Recall...the indignant outrage, the punishment of heretics, the refusal to consider claims as they were actually stated, and moral cleansing through demonstrations and manifestos and public denunciations. [Radical computer scientist Joseph] Weizenbaum condemned ideas "whose very contemplation ought to give rise to feelings of disgust" and denounced the less-than-human scientists who "can even think of such a thing." But of course it is the job of scientists to think about things, even if only to make it clear why they are wrong. (5)

The blank slate ideology, along with its typical correlates, the Noble Savage and the Ghost in the Machine, has real consequences. To take two disparate examples, it is what once blamed the disorder of autism on "frigid" parenting, to the sorrow of many mothers. It is also what informed the political philosophy of totalitarians like Mao Zedong, whose regime was responsible for the deaths of millions of people. Mao rhapsodized, "A blank sheet of paper has no blotches, and so the newest and most beautiful words can be written on it, the newest and most beautiful pictures can be painted on it." (6)

Against this diverse and somewhat amorphous enemy, Pinker deploys the full range of his knowledge of modern evolutionary theory and cognitive science. Several chapters are

devoted to summarizing what psychology since the so-called "cognitive revolution" has taught us about innate or universal structures of the mind. Against the environment-centered behaviorism that dominated the discipline for decades (and consequently had a significant influence on the humanities and anthropology), modern psychology is predicated on the idea that mental representations and processes are not only accessible to study, but indispensable to understanding behavior. Pinker likewise enlists evolutionary psychology, which sees the mind, like any other living system, as possessing traits that are the products of natural selection.

Though this discussion certainly works to Pinker's strengths as an explicator, the initial chapters of *The Blank Slate* will probably prove the dullest to most readers. Sociocultural anthropologists and their ilk, if they read the book at all, would undoubtedly find discussions of visual perception and comparative genomics irrelevant to their concerns. Most psychologists already know this stuff and might even be put off by Pinker's inability to resist sniping at those researchers who might wholeheartedly sympathize with his beef against cultural determinism, but remain skeptical about Chomskian universal grammar, Fodorian mental modules, and other notions of innate mental furniture. For these reasons, though the main text comes in at just over 400 pages, many will find this a long-seeming book.

Pinker surveys more interesting territory when he argues that blank slate ideologues don't really deserve the moral high ground they so frequently claim. Where sociobiologists like E.O. Wilson have been loudly decried as facilitators of crypto-fascist pseudo-science, it was extreme cultural determinism that informed the genocidal ideologies of the Soviet Union, China, and Cambodia. Conversely, the findings of evolutionary psychology and cognitive science have not necessarily been conducive to proponents of the "invisible hand" of unfettered markets. Instead, psychologists have systematically deconstructed the rational chooser at the center of classical economic theories, revealing him or her to be profoundly influenced by self-deception and the cognitive baggage of evolutionary history. While some cultural determinists are convinced that the political implications of evolutionary

psychology are odiously right-wing, the truth is not nearly so neat. Important figures in the field, such as Robert Trivers (a one-time supporter of the Black Panthers) and John Maynard Smith (a lapsed Marxist) would hardly qualify as darlings of the right-wing.

Pinker predicts that the behavioral sciences will prompt a necessary evolution of the ancient dichotomies of political left and right. Citing Thomas Sowell's notion of opposing "tragic" and "utopian" (or "constrained" vs. "unconstrained") visions of human nature, Pinker grants that evolutionary psychology seems more consonant with the former. That is, where the "tragic" vision (exemplified by the Hobbes-Burke-Smith intellectual tradition) sees human affairs as inevitably a clash of opposing interests, with the best we can hope for a kind of refereed equilibrium, the "utopian" (exemplified by Rousseau, Condorcet, and to some degree Marx) sees history as prologue to a program of culturally-driven social improvement that will one day do away with inequality, war, ignorance, etc. Pinker acknowledges that "the new sciences of human nature really do vindicate some version of the Tragic Vision and undermine the Utopian outlook" but this does not necessarily dispose of the goals of the Utopian left. Along with the "selfish" genes, humans have also evolved "a moral sense" in conjunction with "an open-ended combinatorial system, which in principle can increase its mastery over human affairs, just as it has increased its mastery of the physical and living worlds." Granted the practical reality of what John Alcock has called "the triumph of sociobiology" through most of academia, the stage may finally be set for a radical rethinking of the old ideological contrasts. Pinker observes:

The ideologies of the left and the right took shape before Darwin, before Mendel, before anyone knew what a gene or a neuron or a hormone was. Every student of political science is taught that political ideologies are based on theories of human nature. Why must they be based on theories that are three hundred years out of date?

Pinker's recurrent point is that the finding of biologically based differences between individuals, groups, or genders is not the same as granting license for oppression based on those

differences. Human dignity and equality of opportunity are moral ideals that nothing discovered in a lab can ever discredit. What science can weaken, however, are phony, politically motivated models of human nature. Better to pin our convictions on "a realistic, biologically informed humanism" than bad models that might crumble tomorrow.

But as much as Pinker is on the side of the angels in this fight, his book will probably change few minds. After all, cultural determinists rarely deny there is something biological about people. They simply assert that the biology is trivial, obvious, and/or irrelevant to what makes people particularly interesting. Indeed, what qualifies as "interesting" in some disciplines can have less to do with grand intellectual traditions than with the *petit* politics of academe. In anthropology, the self-interest of area studies (with respect to funding and otherwise) naturally promotes a preoccupation with distinctions between cultural areas. The need to be different, to justify a discipline's intellectual existence, can by itself promote notions in some departments that are roundly rejected elsewhere. It is precisely the failure of the blank slate doctrine in economics and psychology that may make it so attractive to a number of anthropologists. Their reaction then becomes self-perpetuating: students of sociocultural anthropology, as currently educated in many universities, are no longer trained to evaluate claims of human universality rooted in biology. A natural response, then, is to ignore them. Pinker shows no interest in this important aspect of his thesis, quite possibly because talking about academic politics is a good way to put the general reader to sleep.

But the biggest reason *The Blank Slate* will convince few readers is that Pinker never engages the intellectual core of the opposition. He never gets on the level of his sociocultural antagonists, never addresses their ideas in a detailed fashion. He doesn't really explore what culture is as a concept, and where it came from. We just get the same old talking points, such as Marshall Sahlins's gaffe on fractional relations, or Richard Lewontin's consistent pattern of misquoting Richard Dawkins.

Compared to other treatments of these issues, such as in Donald E. Brown's *Human Universals*,

Pinker does a poor job of framing the intellectual history of blank slate ideology. Brown's book is far shorter, but at least attempts to grapple with the foundational texts of modern sociocultural anthropology (Boas, Bronislaw Malinowski, Mead, Benedict, A.L. Kroeber, et al.). Brown cogently argues that Kroeber's depiction of culture as "superorganic," or dwelling on a plane of causation not reducible to "mere psychology," emerged from the context of a well-meaning reaction against racial science, but has since been pressed to doctrinal extremes not even Kroeber would recognize. Brown notes that "for many anthropologists a very long period of stressing cultural determinants *in practice* has made them think that biological determinants are out of the question *in principle*. They may think that Kroeber was one of those who established the principle, but this is not so." (7)

It is understandable that Pinker prefers to bombard his adversaries from the safety of his own field than engage them "hand-to-hand." Agonists—especially of the scholarly kind—always prefer to compete on their home fields. A more thoughtful book might have circulated farther beyond the choir screen of the converted. Still, Pinker brings a lot of relevant material together here, and his overall message is the correct one: attention to biological influences is long past due.

Nicholas Nicastro is a doctoral student in the Department of Psychology at Cornell University. His empirical work has focused on social learning and evolution of vocal communication in carnivores and primates.

References

- 1- Sparks C.S., & Jantz, R.L. (2002). A Reassessment of Human Cranial Plasticity: Boas Revisited. Proceedings of the National Academy of Sciences, 99 (23).
- 2- Freeman, D. (1983). Margaret Mead and Samoa: The Making and Unmaking of an Anthropological Myth. Cambridge: Harvard University Press.
- 3- The New York Times, 10/8/02, p. F3

- 4- www.kennewick-man.com/documents/jelderks083002.pdf
- 5- Pinker, S. (2002). The Blank Slate. New York: W.W. Norton, p. 156
- 6- *ibid*, p. 279
- 7- Brown, D.E. (1991). Human Universals. New York: McGraw-Hill, p. 58

Bulletin Submissions

All items of interest to ISHE members are welcome: Society Matters; articles; replies to articles; suggestions; announcements of meetings, journals or professional societies; etc. These sorts of submission should be sent to the editor. Book review inquiries should go to the book review editor. All submissions should be in English, and sent to the appropriate editor via e-mail, as an attachment in order to maintain formatting. If e-mail is impossible, hard copies will be accepted, as long as they are accompanied by the same text on diskette (preferably in Microsoft Word version 6.0 or earlier). Shorter reviews are desirable (less than 1000 words). **Please include complete references for all publications cited.** For book reviews, please include **publisher's mailing address and the price of hardback and paperback editions.** Submissions are usually reviewed only by the editorial staff. However, some submissions are rejected. Political censorship is avoided, so as to foster free and creative exchange of ideas among scholars. The fact that material appears in the bulletin never implies the truth of those ideas, ISHE's endorsement of them, or support for any of them.



The First Moscow Conference at Zvenigorod

New Books

- Brune, M., Ribbert, H., & Schiefenovel, W. (eds.) (2003). The Social Brain: Evolution and Pathology. NY: Halsted Press, 472p. ISBN: 0470849606. {under review}
- Coe, K. (2003). The ancestress hypothesis: Visual art as adaptation. Rutgers University Press, 272p. ISBN: 0813531322.
- Cory, G. A., & Gardner, R. (eds.) (2002). The Evolutionary Neuroethology of Paul MacLean: Convergences and Frontiers. Praeger, 472p. ISBN: 0275972194.
- Crehan, K. (2002). Gramsci, culture and anthropology. University of California Press, 220p. ISBN: 0520-23602-5.
- Felson, R. B. (2002). Violence and gender reexamined. Washington, DC: APA, 273p. ISBN 1-55798-895-1.
- Glimcher, P. W. (2003). Decisions, uncertainty, and the brain: The science of neuroeconomics. MA: MIT Press, 400p. ISBN 0262-07244-0.
- Mackie, D.M. and Smith, E.R. (Eds.). (2002). From Prejudice to Intergroup Emotions: Differentiated Reactions to Social Groups. Psychology Press, 352p. Hardback \$75.00 (under review).
- Salter, F. K. (ed.) (2002). Risky transactions: Trust, kinship, and ethnicity. NY: Berghahn Books, 304p. ISBN: 0571813195.
- Steckel, R. H., & Rose, J. C. (eds.) (2002). The backbone of history: Health and nutrition in the Western Hemisphere. Cambridge University Press, 568p. ISBN: 0521801672
- Travis, C.B. (ed.) (2003). Evolution, gender, and rape. MA: MIT Press, 472p. ISBN 0262-70090-5.

Editorial Staff

Editor

Peter LaFreniere
362 Little Hall
Department of Psychology
University of Maine
Orono, ME 04469 USA
tel. 1-207-581-2044
fax 1-207-581-6128
e-mail: peterlaf@maine.edu

Current Literature Editor

Johan van der Dennen
Center for Peace and Conflict Studies
University of Groningen
Oude Kijk in 't Jatstraat 5/9
9712 EA Groningen, The Netherlands
tel. 31-50-3635649
fax 31-50-3635635; e-mail:
J.M.G.van.der.dennen@rechten.rug.nl

Chief Book Review Editor

Thomas R. Alley
Department of Psychology
Clemson University
Brackett Hall
Clemson, SC 29634-1511, USA
tel. 1-864-656-4974
fax 1-864-656-0358
e-mail: alley@clemson.edu

Associate Book Review Editor

Peter Gray
Department of Psychology
Boston College
Chesnut Hill, MA 02467 USA
e-mail: gray@bc.edu

Current Literature

Compiled by Johan van der Dennen

Alexander, G.M. (2003) An evolutionary perspective of sex-typed toy preferences: Pink, blue, and the brain. *Archives of Sexual Behavior*, 32, 1, 7-14 (Texas A&M Univ., Dept. Psychiat., 5235-TAMU, College Stn, TX 77843, USA)

Aoki, K. (2002) Sexual selection as a cause of human skin colour variation: Darwin's hypothesis revisited. *Annals of Human Biology*, 29, 6, 589-608 (Univ. Tokyo, Dept. Biol. Sci., Bunkyo Ku, Hongo 7-3-1, Tokyo 1130033, Japan)

Bloch, M. & Sperber, D. (2002) Kinship and evolved psychological dispositions - The mother's brother controversy reconsidered. *Current Anthropology*, 43, 5, 723-748 (Univ. London, London Sch. Econ. & Polit. Sci., Houghton St, London WC2A 2AE, England)

Buss, D. (2002) Human mate guarding. *Neuroendocrinology Letters*, Special Issue on Human Ethology and Evolutionary Psychology, 23, Suppl. 4, 23-29 (Univ. Texas, Dept. Psychol., Austin, TX 78712, USA)

Cellerino, A. (2002) Facial attractiveness and species recognition: an elementary deduction? *Ethology Ecology & Evolution*, 14, 3, 227-237 (Scuola Normale Super Pisa, Via Moruzzi 1, I-56100 Pisa, Italy)

Colarelli, S.M., Alampay, M.R., & Canali, K.G. (2002). Letters of recommendation: An evolutionary perspective. *Human Relations*, 55, 315-344 (Central Michigan Univ., Dept. Psychology, Mt. Pleasant, MI 48859, USA)

Crawford, C. & Salmon, C. (2002). Psychopathology or adaptation? Genetic and evolutionary perspectives on individual differences and psychopathology. *Neuroendocrinology Letters*, Special Issue on Human Ethology and Evolutionary Psychology, 23, Suppl. 4, 39-45 (Simon Fraser Univ., Dept. Psychol., Burnaby B.C., V5A 1S6, Canada)

De Sousa Campos, L., Otta, E. & de Oliveira Siqueira, J. (2002) Sex differences in mate selection strategies: Content analyses and responses to personal advertisements in Brazil. *Evolution and Human Behavior*, 23, 5, 395-406 (Univ. Sao Paulo, Inst. Psychol., Ave Prof Mello Moraes 1721, Cidade Univ., BR-05508900 Sao Paulo, Brazil)

De Waal, F.B.M. (2002) Evolutionary psychology: The wheat and the chaff. *Current Directions In Psychological Science*, 11, 6, 187-191 (Emory Univ., Yerkes Reg. Primate Res. Ctr., 954 N Gatewood Rd, Atlanta, GA 30322, USA)

DeSteno, D., Bartlett, M.Y., Braverman, J. & Salovey, P. (2002) Sex differences in jealousy: Evolutionary mechanism or artifact of measurement? *Journal of Personality and Social Psychology*, 83, 5, 1103-1116 (Northeastern Univ., Dept. Psychol., Boston, MA 02115, USA)

Dijkstra, P. & Buunk, B.P. (2002) Sex differences in the jealousy-evoking effect of rival characteristics. *European Journal of Social Psychology*, 32, 6, 829-852 (Buunk B.P.: Univ. Groningen, Grote Kruisstr 2-1, NL-9712 TS Groningen, Netherlands)

Dixson, A.F. (2002) Sexual selection by cryptic female choice and the evolution of primate sexuality. *Evolutionary Anthropology*, 11, 1, 195-199 (Zool. Soc. San Diego, Ctr. Reprod. Endangered Species, POB 120551, San Diego, CA 92112, USA)

Dixson, A.F., Halliwell, G., East, R. Wignarajah, P. & Anderson, M.J. (2003) Masculine somatotype and hirsuteness as determinants of sexual attractiveness to women. *Archives of Sexual Behavior*, 32, 1, 29-39 (see above)

Ellis, L. (2001) The biosocial female choice theory of social stratification. *Social Biology*, 48, 3-4, 298-320 (Minot State Univ., Minot, ND 58707, USA)

- Enquist, M., Arak, A., Ghirlanda, S. & Wachtmeister, C.A. (2002) Spectacular phenomena and limits to rationality in genetic and cultural evolution. *Philosophical Transactions of the Royal Society of London, Series B-Biological Sciences*, 357, 1427, 1585-1594 (Arak A.: Archway Engn UK Ltd, Ainleys Ind Estate, Elland HX5 9JP, W Yorkshire, England)
- Eswaran, V. (2002) A diffusion wave out of Africa - The mechanism of the modern human revolution? *Current Anthropology*, 43, 5, 749-774 (Indian Inst. Technol., Kanpur 208016, Uttar Pradesh, India)
- Fisher, H., Aron, A., Mashek, D., Li, H., Strong, G., & Brown, L.L. (2002) The neural mechanisms of mate choice: A hypothesis. *Neuroendocrinology Letters*, Special Issue on Human Ethology and Evolutionary Psychology, 23, Suppl. 4, 92-97 (4 East 70th Street, New York City, NY 10021, USA)
- Foley, R. (2002) Adaptive radiations and dispersals in hominin evolutionary ecology. *Evolutionary Anthropology*, 11, 1, 32-37 (Univ. Cambridge, Dept. Biol. Anthropol., Leverhulme Ctr. Human Evolutionary Studies, Downing St, Cambridge CB2 3DZ, England)
- Geary, D.C. (2002) Sexual selection and human life history. *Advances in Child Development and Behavior*, 30, 41-101 (Univ. Missouri, Dept. Psychol. Sci., Columbia, MO 65211, USA)
- Grammer, K., Fink, B. & Renninger, L. (2002) Dynamic systems and inferential information processing in human communication. *Neuroendocrinology Letters*, Special Issue on Human Ethology and Evolutionary Psychology, 23, Suppl. 4, 15-22 (Ludwig-Boltzmann-Institute for Urban Ethology, Univ. Vienna, Althanstrasse 14, A-1090, Vienna, Austria)
- Hagen, E.H. (2002) Depression as bargaining - The case postpartum. *Evolution and Human Behavior*, 23, 5, 323-336 (Humboldt Univ., Inst. Theoret. Biol., Invalidenstr 43, D-10115 Berlin, Germany)
- Herz, R.S. & Inzlicht, M. (2002) Sex differences in response to physical and social factors involved in human mate selection: The importance of smell for women. *Evolution and Human Behavior*, 23, 5, 359-364 (Brown Univ., Dept. Psychol., 89 Waterman Street, Providence, RI 02912, USA)
- Hines, M., Golombok, S., Rust, J., Johnston, K.J. & Golding, J. (2002) Testosterone during pregnancy and gender role behavior of preschool children: A longitudinal, population study. *Child Development*, 73, 6, 1678-1687 (City Univ. London, Dept. Psychol., London EC1V 0HB, England)
- Jumonville, N. (2002) The cultural politics of the sociobiology debate. *Journal of the History of Biology*, 35, 3, 569-593 (Florida State Univ., Dept. Hist., Tallahassee, FL 32306, USA)
- Kameda, T. & Nakanishi, D. (2002) Cost-benefit analysis of social/cultural learning in a nonstationary uncertain environment - An evolutionary simulation and an experiment with human subjects. *Evolution and Human Behavior*, 23, 5, 373-393 (Hokkaido Univ., Dept. Behav. Sci., Kita Ku, N10 W7, Sapporo, Hokkaido 0600810, Japan)
- Kappas, A. (2002) The science of emotion as a multidisciplinary research paradigm. *Behavioural Processes*, 60, 2, 85-98 (Univ. Hull, Cottingham Rd, Kingston Upon Hull HU6 7RX, N Humberside, England)
- Kenrick, D.T., Maner, J.K., Butner, J., Li, N.P., Becker, D.V. & Schaller, M. (2002) Dynamical evolutionary psychology: Mapping the domains of the new interactionist paradigm. *Personality and Social Psychology Review*, 6, 4, 347-356 (Arizona State Univ., Dept. Psychol., Tempe, AZ 85287, USA)
- Kenrick, D.T., Li, N.P. & Butner, J. (2003) Dynamical evolutionary psychology: Individual decision rules and emergent social norms. *Psychological Review*, 110, 1, 3-28 (see above)
- Kilts, C.D., Egan, G., Gideon, D.A., Ely, T.D. & Hoffman, J.M. (2003) Dissociable neural pathways are involved in the recognition of

emotion in static and dynamic facial expressions. *Neuroimage*, 18, 1, 156-168 (Emory Univ., Sch. Med., Dept. Psychiat. & Behav. Sci., Atlanta, GA 30322, USA)

Kimura, D. (2002) Sex hormones influence human cognitive pattern. *Neuroendocrinology Letters*, Special Issue on Human Ethology and Evolutionary Psychology, 23, Suppl. 4, 67-77 (Simon Fraser Univ., Dept. Psychol, Burnaby B.C, V5A 1S6, Canada)

Koehler, N., Rhodes, G. & Simmons, L.W. (2002) Are human female preferences for symmetrical male faces enhanced when conception is likely? *Animal Behaviour*, 64, 2, 233-238 (Univ. Western Australia, Sch. Psychol., 35 Stirling Highway, Crawley, WA 6009, Australia)

Lawson, A.E. (2002) The origin of conditional logic: Does a cheater detection module exist? *Journal of Genetic Psychology*, 163, 4, 425-444 (Arizona State Univ., Dept. Biol., Tempe, AZ 85287, USA)

Leonard, W.R. (2002) Food for thought - Dietary change was a driving force in human evolution. *Scientific American*, 287, 6, 106-115 (Northwestern Univ., Evanston, IL 60208, USA)

Lutchmaya, S. & Baron-Cohen, S. (2002) Human sex differences in social and non-social looking preferences, at 12 months of age. *Infant Behavior & Development*, 25, 3, 319-325 (Univ. Cambridge, Autism Res. Ctr., Dept. Expt. Psychol., Downing Site, Cambridge CB2 3EB, England)

Lutchmaya, S., Baron-Cohen, S. & Raggatt, P. (2002) Foetal testosterone and eye contact in 12-month-old human infants. *Infant Behavior & Development*, 25, 3, 327-335 (see above)

Lynch, W.J., Roth, M.E. & Carroll, M.E. (2002) Biological basis of sex differences in drug abuse: preclinical and clinical studies. *Psychopharmacology*, 164, 2, 121-137 (Univ. Minnesota, Dept. Psychiat., Box 392 Mayo, Minneapolis, MN 55455, USA)

Mackey, W. C. & Immerman, R. S. (2002) Cultural viability and gender egalitarianism: An elusive balance yet to be struck. *Journal of Comparative Family Studies*, 33, 4, 475-494 (Boston

Coll., Grad. School Social Work, Boston, MA 02167, USA)

Mackey, W. C. & Immerman, R. S. (2002) The upper limits of civilization: Why improvement of the commonweal is so difficult. *The Journal of Social, Political and Economic Studies*, 27, 3, 363-379 (see above)

Martin, R.D. (2002) Primatology as an essential basis for biological anthropology. *Evolutionary Anthropology*, 11, 1, 3-6 (Field Museum Nat. Hist., 1400 S Lake Shore Dr, Chicago, IL 60605, USA)

Meloy, J.R. (2002) The "polymorphously perverse" psychopath: Understanding a strong empirical relationship. *Bulletin of the Menninger Clinic*, 66, 3, 273-289 (POB 90699, San Diego, CA 92169, USA)

Nordenstrom, A., Servin, A., Bohlin, G., Larsson, A. & Wedell, A. (2002) Sex-typed toy play behavior correlates with the degree of prenatal androgen exposure assessed by CYP21 genotype in girls with congenital adrenal hyperplasia. *Journal of Clinical Endocrinology and Metabolism*, 87, 11, 5119-5124 (Huddinge Univ. Hosp., Karolinska Inst., Dept. Pediat., S-14186 Huddinge, Sweden)

O'Connell, J.F., Hawkes, K., Lupo, K.D. & Jones, N.G.B. (2002) Male strategies and Plio-Pleistocene archaeology. *Journal of Human Evolution*, 43, 6, 831-872 (Univ. Utah, Dept. Anthropol., 270 S 1400 E, Salt Lake City, UT 84112, USA)

Page, K.M. & Nowak, M.A. (2002) Empathy leads to fairness. *Bulletin of Mathematical Biology*, 64, 6, 1101-1116 (Univ. London Univ. Coll., Dept. Comp. Sci., Bioinformat. Unit, Gower St, London WC1E 6BT, England)

Panksepp, J., Moskal, J.R, Panksepp, J.B. & Kroes, R.A. (2002) Comparative approaches in evolutionary psychology: Molecular science meets the mind. *Neuroendocrinology Letters*, Special Issue on Human Ethology and Evolutionary Psychology, 23, Suppl. 4, 105-115 (Bowling Green State Univ., Dept. Psychol., Bowling Green, OH 43403, USA)

- Ricciardelli, P., Bricolo, E., Aglioti, S.M. & Chelazzi, L. (2002) My eyes want to look where your eyes are looking: Exploring the tendency to imitate another individual's gaze. *Neuroreport*, 13, 17, 2259-2264 (Chelazzi L.: Univ. Verona, Dept. Neurol. & Vis. Sci., Physiol. Sect, Strada Le Grazie 8, I-37134 Verona, Italy)
- Rosenberg, K. & Trevathan, W. (2002) Birth, obstetrics and human evolution. *BJOG-An International Journal of Obstetrics and Gynaecology*, 109, 11, 1199-1206 (Univ. Delaware, Dept. Anthropol., Newark, DE 19716, USA)
- Rowe, D.C. (2002) On genetic variation in menarche and age at first sexual intercourse - A critique of the Belsky-Draper hypothesis. *Evolution and Human Behavior*, 23, 5, 365-372 (Univ. Arizona, Sch. Family & Consumer Sci., Campus Box 210033, Tucson, AZ 85721, USA)
- Sagarin, B.J., Becker, D.V., Guadagno, R.E., Nicastle, L.D. & Millevoi, A. (2003) Sex differences (and similarities) in jealousy - The moderating influence of infidelity experience and sexual orientation of the infidelity. *Evolution and Human Behavior*, 24, 1, 17-23 (No Illinois Univ., Dept. Psychol., De Kalb, IL 60115, USA)
- Salter, F. (2002) Estimating ethnic genetic interests: Is it adaptive to resist replacement migration? *Population and Environment*, 24, 2, 111-140 (Max Planck Soc., Von der Tann Str. 3, D-82346 Andechs, Germany)
- Sethi, R. & Somanathan, E. (2002) Understanding reciprocity. *Journal of Economic Behavior & Organization*, 50, 1, 1-27 (Columbia Univ. Barnard Coll., Dept. Econ., New York, NY 10027, USA)
- Sharps, M.J., Villegas, A.B., Nunes, M.A. & Barber, T.L. (2002) Memory for animal tracks: A possible cognitive artifact of human evolution? *Journal of Psychology*, 136, 5, 469-492 (Calif. State Univ. Fresno, Dept. Psychol., Fresno, CA 93740, USA)
- Singh, D. (2002) Female mate choice at a glance: Review of relationship of waist-to-hip ratio to health, fecundity and attractiveness. *Neuroendocrinology Letters*, Special Issue on Human Ethology and Evolutionary Psychology, 23, Suppl. 4, 81-91 (Univ. Texas, Dept. Psychol., Austin, TX 78712, USA)
- Soeling, C. & Voland, E. (2002) Toward an evolutionary psychology of religiosity. *Neuroendocrinology Letters*, Special Issue on Human Ethology and Evolutionary Psychology, 23, Suppl. 4, 98-104 (E. Voland: Otto-Behaghel-Str. 10C, D-35394, Giessen, Germany)
- Towner, M.C. (2002) Linking dispersal and marriage in humans - Life history data from Oakham, Massachusetts, USA (1750-1850). *Evolution and Human Behavior*, 23, 5, 337-357 (Univ. Calif. Santa Barbara, NCEAS, 735 State St, Suite 300, Santa Barbara, CA 93101, USA)
- Troen, B.R. (2003) The biology of aging. *Mount Sinai Journal of Medicine*, 70, 1, 3-22 (Miami Vet. Adm. Med. Ctr., 11GRC, 1201 NW 16th St, Miami, FL 33125 USA)
- Troisi, A. & McGuire, M. (2002) Darwinian psychiatry and the concept of mental illness. *Neuroendocrinology Letters*, Special Issue on Human Ethology and Evolutionary Psychology, 23, Suppl. 4, 31-38 (Via Guattani 14, 00161 Rome, Italy)
- Tse, S.K., Kwong, S.M., Chan, C. & Li, H. (2002) Sex differences in syntactic development: Evidence from Cantonese-speaking preschoolers in Hong Kong. *International Journal of Behavioral Development*, 26, 6, 509-517 (Univ. Hong Kong, Dept. Curriculum Studies, Hong Kong, Peoples R China)
- Van der Dennen, J.M.G. (2002) (Evolutionary) theories of warfare in preindustrial (foraging) societies. *Neuroendocrinology Letters*, Special Issue on Human Ethology and Evolutionary Psychology, 23, Suppl. 4, 55-65 (Univ. Groningen, Dept. Legal Theory, Section Polit. Sci., Oude Kijk in 't Jatstraat 5, 9712 EA Groningen, Netherlands)
- Van Schaik, C.P., Ancrenaz, M., Borgen, G., Galdikas, B., Knott, C.D., Singleton, I., Suzuki, A.; Utami, S.S. & Merrill, M. (2003) Orangutan cultures and the evolution of material culture. *Science*, 299, 5603, 102-105 (Duke Univ., Dept.

Biol. Anthropol. & Anat., POB 90383, Durham, NC 27708, USA)

(Wayne State Univ., Dept. Psychology, Detroit, MI 48207, USA)

Voland, E. & Beise, J. (2002) Opposite effects of maternal and paternal grandmothers on infant survival in historical Krummhorn. *Behavioral Ecology and Sociobiology*, 52, 6, 435-443 (Univ. Giessen, Zentrum Philosophie & Grundlagen Wissensch., Otto Behagel Str 10C, D-35394 Giessen, Germany)

Weiss, A., King, J.E. & Enns, R.M. (2002) Subjective well-being is heritable and genetically correlated with dominance in chimpanzees (*Pan troglodytes*). *Journal of Personality and Social Psychology*, 83, 5, 1141-1149 (NIA, Gerontol. Res. Ctr., Lab. Personal. & Cognit., 5600 Nathan Shock Dr, Baltimore, MD 21224, USA)

Weisfeld, G. & Weisfeld, C. (2002) Marriage: An evolutionary perspective. *Neuroendocrinology Letters*, Special Issue on Human Ethology and Evolutionary Psychology, 23, Suppl. 4, 47-54

