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TEACHING HUMAN EVOLUTION ON CAMPUS

By Peter LaFreniere, HEB Editor

Yesterday I walked up the steps of the student union on the University of Maine campus under a banner that read: DO YOU STILL BELIEVE IN EVOLUTION?, accompanied by an equally unsophisticated cartoon depicting a balding Darwin and a monkey, and I said to my colleague: "Just a second here Toto, maybe we are back in Kansas".

The banner was advertising a speech entitled "The myth of evolution". Although I couldn't spare the time to attend, I thought at the time that everyone is entitled to their opinion, after all America was founded on the principle of individual rights and freedoms, among them freedom of speech. Certainly our college campuses ought to be a haven for free speech, and the free thinking that presumably precedes it.

Were Darwin alive today, instead of balding in caricature, I think he would be proud of the enormous and enduring ripple effect of his "On the Origin of Species", not just in the biological and social sciences, but in all strata of human society. And I do not think he would be surprised by modern-day descendants of the good Bishop Samuel Wilberforce, who in his 1859 debate with Thomas Henry Huxley over the merit of Darwin's recently published opus... "assured us there was nothing in the idea of evolution; rock pigeons were what rock-pigeons had always been. Then turning to his antagonist (Huxley) with a smiling insolence, he begged to know, was it through his grandfather or his grandmother that he claimed his descent from a monkey? (Huxley, 1898, pp. 433-434).

Huxley, and his modern-day descendants, have been replying ever since, both to their right and to their left, with civility and reason, but above all else, with an abundance and diversity of data that would astonish Darwin himself.

In that spirit, this issue presents a sampling of college textbooks published at the start of the new millennium that deal directly with fundamental questions of human nature, all of them adopting a modern synthetic theory of evolution by natural selection as the principle framework for understanding human behavior. In my opinion, such an outpouring of scholarly work provides compelling evidence that the interpenetration of biology and the social sciences has never been more evident, nor more necessary, than it is today. This seems especially true of psychology.

Tom Alley and I made a special effort over the past year to select reviewers who are well versed with teaching human evolution; many of the reviewers are themselves authors of recent textbooks on the subject. I have tried to organize these reviews from general to specific, beginning with those textbooks that introduce students to the most basic aspects of evolution and the origins of modern humans. This is followed by reviews of introductory textbooks dealing with evolutionary psychology, as well as a mainstream psychology textbook that adopts an evolutionary framework. Finally, we review advanced undergraduate and graduate textbooks that apply evolutionary thinking to more specific topics, such as sex differences, emotional development, adolescence, and criminology.

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

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Center for Peace and Conflict Studies
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9712 EA Groningen, The Netherlands
tel. 31-50-3635649
fax 31-50-3635635; e-mail:
J.M.G.van.der.dennen@rechten.rug.nl

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Thomas R. Alley
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418 Brackett Hall
Clemson, SC 29634-1355, USA
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BOOK REVIEWS

Evolution and Human Behavior

By **John Cartwright**, Cambridge, MA: MIT Press, 2000. ISBN?

Reviewed by **Tom Shellberg**, Henry Ford Community College. E-mail: BioTom@aol.com

This introductory text provides an overview of key theoretical principles of human sociobiology and evolutionary psychology, and shows how they illuminate the ways humans think and behave. The twelve chapters provide insightful description of the basics of modern selection theory, and discussion of fundamental issues such as the origins and function of sexual reproduction, mating behavior, human mate choice, conflict in families and other groups, altruistic behavior, the evolution of brain size, language and the modular mind, and the relationship between genes and culture. The book begins with a fairly extensive historical introduction to evolutionary (and non-evolutionary) theories of human behavior and a chapter on Darwin's legacy, and it considers some social and political implications of evolutionary thought, especially in the final chapter on the use and abuse of evolutionary theory. Along the way there is much more, from descriptions of DNA structure and game theory, to discussions of facial attractiveness and reductionism and determinism. There is also a helpful glossary.

This is a sophisticated text, intelligent, well-written, and admirably up-to-date, frequently citing recent research without interfering with the smooth flow of the prose. Many instructors of courses in human sociobiology, human behavioral ecology, biological anthropology, and evolutionary psychology will want to examine this book carefully and consider using it for their courses. Like most evolutionary psychology/human sociobiology-type texts it would not be ideal for broad-based survey courses in behavioral biology which include principles of ethology and behavior genetics because the

topical coverage is too limited, but I think it does a very good job of presenting the material the author has chosen to include.

Because the main focus is on evolutionary explanations of behavior, I'm not dismayed much by the dearth of discussion of proximate influences; not concerned much that there is virtually no discussion of hormones or pheromones or brain circuits or neurotransmitters or maturational stages and sensitive periods. Comparable texts I've seen which are designed for similar educational niches don't usually include much discussion of proximate mechanisms either. One can always assign additional reading or use lecture time to teach about how gender behaviors and sexual orientation and aggression and depression, etc. are influenced, if this seems important to instructors like myself. Despite the intended evolutionary focus of this text and others like it, I think many instructors would, nonetheless, appreciate more on proximate mechanisms, and at least a small unit on the basics of behavior genetics, if only because most students will never take more than one course in the biology of human behavior.

Accepting the limitations of this very good text, which, like most of its competitors ignores most of the proximate mechanisms and behavior genetics principles and concentrates on evolutionary explanations. *[preceding is an incomplete and redundant sentence]*. I was disappointed that there is little or no discussion of the evolutionary explanations of human learning, or principles of communication, or evolutionary functions of aggression, or emotions or dominance and appeasement. Nor is there any discussion of territoriality, play behavior, human health and disease, behavioral development, or the significance of most common human attractions and aversions. There is also very little discussion of the homologous behaviors which humans share with our closest primate relatives or the universal behavioral attributes of all human cultures. All of these topics and many others would be very appropriate and welcome for courses that emphasize an evolutionary approach to human behavior and would be very welcomed, I think, by most students. To be fair to Cartwright though, I don't know of any texts that do all of this, and are able to achieve the breadth of topical coverage I'd prefer, without sacrificing

much of the depth and sophistication I admire in this text.

I was impressed with the knowledge and scientific objectivity of the author and the careful treatment of sensitive topics such as racism and sexism. The only thing that annoyed me was the inclusion of a few, somewhat polemical, socially-correct statements which implied that Rushton's research on racial differences constituted "bad" science, and the suggestion that "good" scientists all agree that racial differences are trivial with the implication that the motives of those who study racial differences are suspect.

As far as pedagogy is concerned, I think that students will like the logical organization of topics and find the writing was mostly clear and interesting. My only complaint is that terms and concepts are sometimes introduced in headings but not adequately defined or described right away, if at all. Sometimes even after reading several paragraphs or pages students will not have a clear understanding of what these words mean. For example, "Comparative Psychology", "Ethology", "Behaviorism", and "Kin Selection" are not defined when first introduced; one must read hundreds of words before the meanings of these terms more or less unfolds. Students will find themselves going back and forth, rereading, wondering what they missed, and in the end will likely find it difficult to give good definitions and descriptions if asked on an exam. My advice for the next edition is to provide more basic definitions, descriptions and overviews right away when new terms and concepts are introduced. Tell the reader what kin selection is basically all about before launching into a discussion of coefficients of relatedness and hymenopteran workers. Give a basic definition of comparative psychology and a couple of concise paragraphs describing what it was and is now, before discussing the work of Lorenz and Heinroth and Pavlov and Watson.

All in all, despite my minor criticisms about the limitations of this text, (which are typically the same limitations found in comparable texts) and my preference for more up-front definitions and descriptions of terms and concepts, I think this is a valuable text which will be appreciated by students for its insights and sophisticated, up-to-date discussions of the topics it covers.

Biological Basis of Human Behavior

By **Geoffrey G. Pope**. Allyn & Bacon, www.abacon.com, (2000), 331pp, ISBN 0-205-27993-7. check price

Reviewed by **Peter LaFreniere**, Department of Psychology, University of Maine, Orono, Maine 04469-5742, E-mail: peterlaf@maine.edu

Geoffrey Pope has written a useful and timely book for all students interested in human origins. The rather sweeping title, "The biological bases of human behavior" is very similar to the title of Hinde's 1974 classic "Biological bases of human social behavior" but it scarcely overlaps with the earlier book's contents. Instead, Pope's book is actually a primer on the evolutionary origins of humankind. It does not deal extensively with biology (in a comprehensive sense) or behavior (in the usual sense), virtually omitting ethology, social behavior, emotions, development, behavioral genetics, psychobiology, hormones, reflexes, theory of mind, etc. Rather, it's strength lies in its well balanced introduction to the evolution of vertebrates, mammals, primates, apes, and hominids. These chapters are especially useful for students in the social sciences and should be required reading for any student of human behavior, as argued by Tom Shellberg in a previous issue of *HEB* (2000, v. 15, 4). I particularly enjoyed the detailed account of hominid evolution, which Pope anchors in his discussion of bipedalism.

The book is divided into 10 chapters varying length from 10 to 60 pages; in all a relatively short textbook for a semester course. The first four chapters essentially deal with evolution, beginning with a theoretical overview, followed by chapters covering mammals and nonhuman primates; hominid evolution; and hunter-gather societies and human universals. This represents about half the book. In the remainder, Pope covers the brain; language and communication; sex, reproduction and love; intelligence, learning and memory; sleep and dreams; and concludes the book appropriately with a chapter titled "The Bottom Line", in which he summarizes areas of consensus and debate.

Of the second half of the book, I thought two chapters were particularly interesting. In "The triune and bicameral brain" (Chap. 5), Pope provides a straightforward and concise summary of recent work in the neurosciences suitable for undergraduate consumption, and in "Language and communication" he reviews extant theories and introduces his own ideas about the evolutionary origins of language. In the latter chapter Pope synthesizes the views of Deacon (1997), Lovejoy (1981), and others into an iconic theory of language evolution that emphasizes the evolutionary sequence from labeling to icon to categorical thinking. He persuasively questions the traditional view of linguists (glottochronologists) that posits relatively recent origins to language (100,000 to 200,000 years ago) based on comparative linguistic analyses which assume that all languages have a common origin (or at least a few common origins), and a constant rate of change. The latter assumption seems particularly dubious to me if we can infer anything from the rate of technological change or other aspects of cultural evolution. In contrast, Pope proposes that hominid language originated approximately 1.5 mya during the Upper Paleolithic which saw other hominid advances such as cerebral asymmetry, symmetrical stone tools, the systematic use of fire, and the migration of modern hominids out of Africa.

One pedagogical feature that Pope uses that I believe is useful for students who are attempting to organize the myriad details of human evolution is a timeline in which current estimates of fundamental advances are laid out along with the appearance of different hominid species. Indeed, these timelines could be used more extensively if organized around particular themes, like language evolution. A feature of the book that I did not like was the use of a bibliography, rather than references cited in the text. This alone renders the text far less useful as a reference book for students of human behavior. The omission of citations was exacerbated by the partial, sporadic citation of a few authors along idiosyncratic lines. I believe students should be taught from the beginning the importance of questioning the source and underlying logic and methodology of scientific assertions. While I would like to see seminal references more systematically cited, I would advise omitting some of the more ludicrous examples of pseudo-

sociobiological speculations such as Wrangham's rape theory on the origin of language in favor of the extensive empirical literature on the biological bases of human behavior referred to in the opening paragraph. Finally, one last peevish critique: After reading the phrase "little hominids" for the hundredth time I wondered if anyone believes that such an inelegant linguistic innovation could possibly be construed as somehow more scientific than the jargon currently used by developmental psychologists: "children".

These criticisms aside, I found this book to be well informed regarding the evolutionary bases of human behavior and a good antidote to the widespread ignorance of human nature that is currently cultivated on US campuses in the name of political correctness and social constructivism. On a lighter note, I learned a few surprising facts about evolution myself: Did you know that songbirds exhibit cerebral asymmetry? Something to keep in mind as I tromp through the mud of Point Pelee this spring in search of migrating warblers. In the end, I found that reading Pope can be enjoyable and enlightening for all students of human evolution.

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Psychology: An Evolutionary Approach

by Steven J. C. Gaulin and Donald H. McBurney.
Upper Saddle River, NJ: Prentice Hall, 2001.
Xiv + 402p. ISBN: 013-759994-3

Reviewed by G. William Farthing, Department of Psychology, University of Maine, Orono, ME 04469, E-mail: gwfarthing@maine.edu

I have taught PSY 100: General Psychology for about 25 of my 32 years in academe. I teach it by choice, since I enjoy the variety of topics in the course and I like the challenge of teaching it. But frankly, I am tired of receiving new general psychology textbooks to examine. They are all pretty much alike. I am sufficiently content with the one I have been using that I have no incentive to take the time to seriously examine yet another massive encyclopedia of psychology, let alone go to the trouble of switching texts.

So it was a pleasant surprise to receive a copy of Gaulin and McBurney's new text, Psychology: An Evolutionary Approach. The first thing I noticed, besides the cave art on the cover, is that the text is a medium-sized paperback of about 400 pages. And upon examining the contents it quickly became apparent that the authors use the evolutionary approach as a unifying theme throughout the book. A unifying theme provides a rationale for excluding some topics while including others, including some that are not usually found in introductory psychology textbooks. I like the idea of a relatively brief textbook with a unifying theme for my one-semester general psychology course. Other "brief" texts are usually nothing more than abbreviated encyclopedias, still too long and diverse to cover in a single semester.

Gaulin and McBurney try to at least touch base with most of the standard chapters of a general psychology textbook. Among the familiar chapter titles are sensation and perception, consciousness, learning, cognition, intelligence and personality, motivation and emotion, health, abnormal psychology, and social behavior. While these chapter titles are typical, what is not typical is their content, which is almost exclusively on evolutionary

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psychology theory and research. Atypical chapter titles include evolutionary theory, the genetic basis of evolution, implications of neo-Darwinism for psychology, the psychology of human mating, families and development, and culture.

Of course, evolution as a unifying theme for a general psychology textbook would not appeal to everybody. Though I did not know much about evolutionary psychology per se, I was prepared to take it seriously because of my interest in biological aspects of psychology and my graduate minor in zoology, and my hobbies related to natural history. So over Christmas vacation I read Gaulin and McBurney's new text.

It was fascinating! I like the way evolutionary psychology as represented by Gaulin and McBurney's textbook brings together research and ideas from psychology, biology, and anthropology. And I like the way it adds some new topics to the domain of psychology, and suggests new research, as well as giving a fresh point of view on old topics. For example, new topics such as altruism and the role of kinship in cooperation, sex differences in sexual behavior and mate selection, and conflict within families. And of special interest to me, evolutionary perspectives on human cognitive processes, such as heuristics in judgment and decision making. Also, I like the reframing of the nature-nurture, heredity-environment issue. The authors distinguish between obligatory and facultative traits. Facultative traits have an evolutionary basis but they are flexible, within limits, the manner of their expression depending on experience in a particular physical or social environment. Learning mechanisms are facultative traits. We are prepared, through our heredity, to learn some things more easily than others. For example, we aren't born with a fear of spiders or snakes, but under the right circumstances we learn them very easily, more easily than we learn fears of dangerous things like electric outlets or motorcycles.

Gaulin and McBurney is going to rank as one of the most influential books of my career in psychology. As my introduction to evolutionary psychology it has stimulated my interest in the topic, inspired ideas for research, and prompted revisions in my general psychology course and other courses. After finishing Gaulin and

McBurney I started reading other works on evolutionary psychology, such as Buss, Pinker, and works of Tooby and Cosmides. And, believe it or not, I have started re-reading Darwin's Origin for the first time in almost 40 years, as well as newer works on evolution by Dawkins.

Despite my enthusiasm for Gaulin and McBurney's book and its influence on me, I have reservations about adopting it as the textbook for my general psychology course. While on the one hand I appreciate the fact that the book is not an encyclopedia, on the other hand I think it has too little coverage of some topics that should be standard in an introductory psychology course. For example, there is too little coverage of the different types of major mental disorders, their symptoms and etiology. Too little on important social psychology topics like conformity and obedience. Racial and ethnic prejudice is a surprising omission, in view of its obvious connection with evolutionary issues. It is surprising to see little or no coverage of behavioral genetics and evidence on the influence of heredity on normal personality traits and predisposition to mental illness. And the failure to discuss the organization and function of the brain seems to me to be a major omission in a biologically-oriented textbook.

I realize that adding more coverage of standard introductory psychology topics would make the book longer. But with only 361 pages of text it would be possible to add, say, another 90 pages and the book would still be desirably shorter than the 700 to 800 pages of text (excluding end matter) of the typical introductory psychology encyclopedia. This added coverage would make it much easier to adopt Gaulin and McBurney as the standard text in an introductory general psychology course. Meanwhile, the book is more suitable as a text for an advanced undergraduate course on evolutionary psychology. Its brevity will allow the option of added readings on selected topics.

Gaulin and McBurney inspired me to make some major changes in my general psychology course this semester. I am adding several lectures on evolutionary psychology topics, particularly in connection with the chapters on biological foundations, motivation, and social psychology. This revision has been facilitated by significantly increased coverage of the

evolutionary psychology viewpoint in the latest edition of the general psychology text that I have used for several years (Weiten, 2001).

Indeed, the increased coverage of evolutionary psychology in a standard text like Weiten's is evidence that evolutionary psychology is now entering the mainstream of psychology. In fact, in recent years some introductory psychology textbooks have added entire chapters on the genetic and evolutionary foundations of human behavior (e.g. Gray, 1999; Peterson, 1997; Carlson & Buskist, 1999). Now I am looking for textbooks for my advanced undergraduate cognition and motivation courses that include good coverage of the evolutionary psychology approach and research inspired by it.

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Psychology (third edition).

By Peter Gray. Worth Publishers, New York, NY, 1999, 682 pp. plus appendices, ISBN: 1-57259-414-4

Reviewed by Alan M. Rosenwasser, Dep't of Psychology, Univ. of Maine, Orono, ME, 04469.
E-mail: alanr@maine.edu

Peter Gray's *Psychology* is surely one of the most biologically oriented textbooks available for introductory psychology courses (rivaled perhaps only by Carlson and Buskist's *Psychology: The Science of Behavior*, Allyn & Bacon). Further, it is among the best-written textbooks introductory or otherwise that I have

ever read, combining depth, perspective and lucidity in equal measure. In the preface to the current (3rd) edition, Gray says that "a book becomes more accessible not by being 'dumbed down' but by being 'smartened up'". *Psychology* convincingly demonstrates this principle by providing consistently clear, understandable explanations of complex, subtle concepts.

Rather than treating biological psychology as a sub-field of psychology, this text aims to show students that a biological approach is valid and applicable across the various domains of psychological knowledge, including those areas that have sometimes been unfortunately viewed as the non-biological areas of psychology. In this regard, Gray's *Psychology* may be viewed as part of an ongoing positive trend in academic psychology towards the full integration of psychological, biological, and socio-cultural theory and data. Indeed, this reviewer believes that the continued integrity of psychology as a distinct enterprise, alongside the behavioral and cognitive neurosciences, behavior genetics, evolutionary psychology, and other emergent fields of biobehavioral science, rests largely on its endorsement of the biopsychosocial model. I would like to think that integrative texts like this one not only reflect, but contribute to and strengthen, this trend.

Despite its strong biological flavor, the text follows a broadly traditional organizational scheme, progressing from "foundations" chapters on history and methodology, through chapters on basic biological and cognitive processes, then through chapters focused on the psychology of individual differences, and finally concluding with chapters on abnormal psychology and treatment. There are a few unique features, however. One is that the chapter on basic learning and conditioning mechanisms is grouped with the chapter on basic genetic and evolutionary processes under the section heading "The Adaptiveness of Behavior". This serves to highlight the role of learning and cognitive mechanisms as evolved biologically prepared adaptations. And unlike other introductory psychology texts, this one includes two successive chapters devoted mainly to brain mechanisms, one on the structure and function of the nervous and neuroendocrine systems, and a second, entitled "Mechanisms of Motivation, Sleep, and Arousal". Indeed, the following chapter, on

"Sensation", continues the pattern of presenting a strong neurophysiological basis for behavior. Probably the most unusual chapter in this text is the one on "Personality", which in addition to more traditional topics, also includes a fascinating section called "Personality as Adaptation to Life Conditions", presenting a discussion of personality dimensions in the pumpkinseed sunfish.

I suppose it should be admitted at this point that I don't teach introductory psychology on a regular basis, and when I have, it has been to relatively small groups. In recent years, I used this text (or earlier editions) a few times in summer classes of 20-30 students, and more recently, in a special section of introductory psychology open only to first-year students in our university honor's program. Not surprisingly given its depth and content, my strong impression is that *Psychology* was received most favorably by the honor's students, and somewhat less so by the summer students, several of whom were taking the course to satisfy a final social science requirement before graduating. I imagine that all introductory psychology teachers must deal with the fact that many students still enter this course carrying erroneous preconceptions of the range of subject matter to be discussed. For this reason, I find it useful to spend much of the first class meeting reviewing the table of contents of the textbook. Despite this presumably eye-opening exercise, I have had frequent comments from students, both in person and in the end-of-course evaluations, that the course did not include enough "real psychology." One student wrote "This course had a little of everything: physiology, nutrition, evolution ...but not enough of what I would call psychology." This cannot be blamed on Gray's text, however; I am certain that such a student would have a similar reaction to the content of almost any introductory psychology course or textbook. Instead, the "blame" is mine as I biological psychologist, I am determined to present psychology as a biologically based science, and Gray's book gives me the supporting material I need to do that as successfully as possible. I strongly recommend this book to others wishing to present a full range of introductory psychological content within a biological context, especially to academically strong students.

Sex Differences: Developmental and Evolutionary Strategies

By Linda Mealey San Diego: Academic Press, 2000. 458p. ISBN: 0124874606

Reviewed by Charles Crawford, Department of Psychology, Simon Fraser University, Burnaby, BC, Canada, V5A 1S6 E-mail: Crawford@sfu.ca

Modern Darwinism is a major part of the current intellectual *zeitgeist*. Hundreds of books, dozens of conferences, and thousands of articles with a Darwinian perspective on topics important for psychologists, psychiatrists, anthropologists, cognitive scientists, and philosophers have contributed to the explosion of interest in using Darwin's theory of evolution by natural selection to help understand the plot of human nature. Moreover, there is great interest from students in learning how modern Darwinism can help us understand human behaviour. However, books that are suitable classroom use are rare.

There were more good textbooks for teaching students about evolution and human behaviour back in the 1980s than there are now. Two of the best were Martin Daly and Margo Wilson's *Sex, evolution and behaviour* and David Barash's *Sociobiology and behavior*. Both had two editions, with the second in the early 1980s. Daly and Wilson's book is still in print and can be used as a text. Recently, however, many of us have been relying on collections of readings. The situation, however, is beginning to improve. Last year David Buss published *Evolutionary psychology: The new science of the mind*. It is a text that introduces evolutionary psychology to a wide variety of students. Now Linda Mealey has produced a textbook specialised for the teaching of sex differences in behaviour.

The book begins with a long preface for students—really a mini chapter—that provides an orientation to what follows. Mealey indicates that the purposes of the book are (1) to bring readers up to date with respect to knowledge about sex and gender differences, and (2) to establish a framework from which to view sex and gender differences. A third reason for the book is that the subject is one that is of great

concern to people. Mealey acknowledges that there is controversy about the roles of folk knowledge, science, and politics in the area of sex differences, and indicates that while she appreciates the alternative perspectives, her approach is primarily scientific.

Mealey divides her treatment of sex differences into three parts: Theory, Non-Human Systems, and Human Systems. The theory part contains four chapters: an introduction, and chapters on sexual differentiation, the evolution of sex and sex differences, and sex as a life history strategy. The second part, on non-human systems, contains chapters on male strategies and tactics, female strategies, and tactics, and mating systems. The final part, on human systems, contains five chapters, beginning with an introductory chapter on the human animal. This is followed by chapters on women's strategies and tactics, men's strategies and tactics, courtship, mating and parenting. The book closes with a chapter on sexual politics.

The layout is nice. There are text boxes in every chapter that deal with interesting and/or controversial material. Pictures, figures and graphs are used to effectively communicate with students. Most chapters have cartoons that entertain and give one the feeling that the text is connected to events out in the real world. There is an excellent glossary. Finally, there is an 83-page bibliography. I could not think of a reference that it did not contain.

The treatment of the subject matter is thorough and up to date. Dividing the content into the three sections of theory, animal systems, and human systems is a very effective way of developing the content. It will appeal to anyone, and especially those with a human ethology perspective, who take an interest in the role of biological factors in the development of sex and gender differences in behaviour. The logic flows smoothly from animal to human studies. This is particularly important in a text because students often resist the inclusion of animal studies in courses on evolution and human behaviour.

Sex differences: Developmental and evolutionary strategies is not an evolutionary psychology text. Its closest ancestor is probably Daly and Wilson's Sex evolution and behavior. However, it also has some resemblance to

Barash's Sociobiology and behavior. Hence, anyone who values a biological perspective will find the book of value, including psychologists, biological anthropologists, behavioural ecologists, as well as human ethologists.

In a personal communication, Mealey suggested to me that the book would have a rather small audience and that it would likely find its greatest use in small, senior seminars. In this case, it would provide the background that would enable students to understand the primary literature that would be the basis of the seminar discussions. It could be used in graduate seminars and fourth year undergraduate courses in psychology, biological anthropology, biology, behavioural ecology and women's studies. However, I do not believe that its use will be limited to such elite groups. There are three reasons for this belief. First, it is of intermediate difficulty. I see it as about as difficult to read as Daly and Wilson's (1983) Sex, evolution, and behavior and less difficult to read than Robert Trivers' (1985) Social evolution, a book that I used as a text for several years in my third year undergraduate psychology course on the evolution of social behaviour. Second, Part 1, on theory, and Chapter 8 provide a rather general background that makes the content accessible to a fairly wide student audience. Third, Mealey's writing is clear and easy to understand. I believe that third year undergraduate students who have had some high school biology and a full year of introductory psychology, biology, or physical anthropology, and a half-year of research methodology would not find it unduly difficult. Hence, I see the audience for Sex differences: Developmental and evolutionary strategies as much larger than Mealey indicates.

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Sex Differences in Cognition

Reviews of:

Sex Differences in Cognitive Abilities (3rd ed.)

By Diane F. Halpern. Mahwah, NJ: Lawrence Erlbaum Associates, 2000, xviii + 420p, \$36.00 pbk. (\$79.95 in cloth). ISBN 0-8058-27919.

and

Sex and Cognition

By Doreen Kimura. Cambridge, MA: MIT Press, 1999, 217p, \$30.00 cloth (pbk available). ISBN 0-262-112361.

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

Like many issues involving group differences, asking questions about sex differences in abilities can produce more heat than light. Some will argue that it is dangerous to even raise the issues, let alone conduct empirical research, since either might foster discrimination. It is wise that Halpern's *Sex Differences in Cognitive Abilities* (hereafter, SDCA) begins by recognizing and addressing many of the historical, economic, social and political aspects of questioning or investigating sex differences in cognition. Halpern provides a strong case for considering questions about sex differences from a rational and data-based position. Even though sex differences can, of course, result from largely non-biological factors, this pattern of intellectual resistance is reminiscent of the reaction to many questions about genetic differences between groups, and many of the same arguments can be used for issues in evolutionary psychology. Unfortunately, the opening chapter includes a brief critique of evolutionary theories based on a caricature that over-emphasizes such occasional miss-steps as dubious analogies between human behavior and non-human animals. In addition, the opening sections of the book review sex differences more generally, clarify terminology, consider multiple intelligences, present

Halpern's psychobiosocial model, and discuss the evaluation of empirical evidence in general, and cognitive abilities in particular.

A surprisingly thorough review of methodological issues and techniques is presented in Chapter 2; it covers everything from sampling to meta-analysis and numerous statistical issues. These matters are immediately useful as Chapter 3 presents an overview of reported sex differences in cognition and tackles questions of whether they are large enough to be of practical or theoretical importance. In this chapter (& elsewhere), Halpern carefully examines evidence for separate abilities within a domain (e.g., within spatial, quantitative or verbal abilities), then uses the more fine-grained analysis to present a clearer and more legitimate evaluation of sex differences. Without this type of analysis, researchers are likely to oversimplify sex differences ("men are better at spatial tasks; women at verbal") or erroneously conclude that differences in cognitive abilities are inconsistent. For example, there is variation in the size, and even direction, of sex effects in studies of both verbal and spatial skills, but much of this variation reflects differential performance on specific skills within these areas, as highlighted by female superiority on spatial location memory and male superiority on verbal analogies.

The largest section of the book presents an extensive examination of hypotheses about sex differences in two pairs of chapters. The first pair examines biological hypotheses; hormones and behavioral genetics are covered in Chapter 4 followed by an examination of brain-behavior relationships and evolutionary pressures in Chapter 5. These are topics that may not have a lot of initial appeal to many students, but the well-written and highly organized presentation in SDCA should prove no less than fascinating to most. The second pair of chapters covers psychosocial theories and hypotheses, with particularly extensive coverage of socialization and sex roles (all of Chapter 6). These four chapters present a wealth of additional findings, and critical reviews of relevant claims and theories. There were a few occasions when I believe even more information should have been presented (e.g., on brain laterality and footedness, circa p. 202), but no sizable gaps in

coverage were evident. The book ends with what appears to be an integrated overview (Chapter 8) but actually adds few if any conclusions. Instead, this final chapter takes a critical look at cross-cultural research, and returns to issues of education, personal belief, and implications of sex differences.

Doreen Kimura is a widely cited and highly respected researcher in the field of neuropsychology. Her book Sex and Cognition (hereafter, S&C) begins, somewhat like SDCA, by arguing for a scientific and evolutionary approach to questions about sex differences in cognition in two short chapters. The first of these provides succinct but powerful arguments to counter various arguments against using biological explanations. Unfortunately, this is followed by a weak chapter on "Our Evolutionary Legacy". The evolutionary framework presented emphasizes three sex differences that are likely to have characterized our evolutionary past: men being (1) more involved in hunting or scavenging that took them further from a home base, (2) more active in manufacturing tools and weapons, and (3) less involved in child care. Readers lacking a background in evolutionary theory or anthropology, however, may see this framework as a fanciful fable since it is largely unsupported by arguments or references. Indeed, Kimura uses just four citations in this chapter on "Our Evolutionary Legacy". (Actually, she also cites "Darwin 1859, 1872", but no reference is given. Considerably more citations are provided in later chapters.) Moreover, some of the arguments that are made seem dubious. For instance, Kimura suggests that the development of agriculture "probably did not significantly alter the division of labor between men and women" (p. 13). And why would the tool making attributed to men not promote the 'female trait' of fine motor skills as well as the 'male trait' of spatial skills? Fortunately, some more detailed and sophisticated evolutionary analysis occurs later in the book.

Chapter 3 comprises a third background chapter and covers the biological bases of sex determination. The presentation is occasionally technical (biochemistry) and quite concise but makes effective use of the implications of a variety of developmental abnormalities.

In the following five chapters, Kimura covers cognitive differences in motor skills, spatial and verbal abilities, mathematical aptitude, and perception. Her conclusions are similar, but not identical, to Halpern's (the differences reflect the ways in which cognitive abilities are classified rather than disagreements about data or their interpretation). Kimura sees the largest sex differences on "targeting" (e.g., throwing) and mental rotation, and notes they appear to be largely independent skills and not reducible to differential experience. The chapters (5 & 6) on spatial and mathematical ability are particularly good. The chapter on perception again suffers from cursory coverage (e.g., "social perception", including detection of emotion, is covered in less than one page), and might present a more coherent view if the higher perceptual processes involved in processes such as picture matching were separated from lower-level processing such as pitch discrimination.

Kimura's chapters 9-11 address hormonal and brain mechanisms. Thankfully, her presentation of these mechanisms is both deeper and more detailed than the preceding coverage of the causes and nature of sex differences. She makes good use of comparative data, mainly from rats and voles, as well as hormonal and brain anomalies in humans. The penultimate chapter is also the most unusual chapter: "Body Asymmetry and Cognitive Pattern". S&C ends with a brief chapter of Concluding Remarks that provides a fine summary and reiterates Kimura's belief that hormones have a major influence on sex differences in cognition whereas the evidence for socialization influences is "meagre". Like SDCA, Kimura also re-visits issues of the validity, politics and significance of sex differences in her final chapter.

These are both fine books. They are authoritative and nearly beyond reproach in their avoidance of biases. Both highlight the complexities of interpreting research results, particularly correlational studies, and acknowledge significant research gaps.

Although the titles of these books are quite similar, their contents are not. There are substantial differences in both the amount and nature of the contents. Both are suitable as textbooks for advanced undergraduates, but

SDCA would also make a fine graduate level textbook. S&C only covers some aspects of sex differences in cognition and uses a minimal number of references. The presentation is more like that of a refined lecture than a standard textbook. SDCA, aside from its use as a textbook, is sufficiently comprehensive to make a fine reference volume; SDCA has over 40 pages of references and a significantly better subject index. S&C is far more narrowly focused on the issues of human biology (especially hormonal influences), development and the brain, and far more reliant on the author's own research. S&C provides short lists for "Further Reading" at the end of each chapter; although these are sometimes annotated, they only list cited references and are not always up-to-date (e.g., the 1981 1st ed. of Left Brain, Right Brain is cited rather than the 1998 5th ed.). Both texts have chapter summaries (usually), subject and author indices but S&C is slightly better illustrated and uniquely has a glossary as well as a brief appendix covering basic statistics.

SDCA provides a far more sophisticated psychobiosocial model, discarding the more simplistic nature-nurture dichotomy. Indeed, the interplay of biology and environment, and the importance and difficulty of interpreting 'facts' seem to be Halpern's favorite themes. SDCA is written at a remarkably uniform level, and displays painstaking care to avoid over-stepping students' pre-existing technical knowledge. Students who read this book will learn a great deal about research methods, data interpretation, brain function, hormones, etc., while also learning about sex differences in cognition.

While SDCA is the polished work one expects in a third edition, S&C has some problems that should not occur even in a first edition. One example is found in Chapter 10 which is missing the chapter summary. Another example occurs in the chapter on Verbal Abilities: Kimura lists grammatical usage as 1 of 3 sex differences in adults' verbal skills at the start of the chapter but then fails to present any results or discussion.

Given the significant differences in breadth of coverage, these two books can be recommended as textbooks in somewhat different circumstances. S&C does not have enough material to serve as

the sole required reading in a university-level class but could, of course, be bolstered by additional readings. It would make a fine supplemental text for a course in cognition, biopsychology or sex differences. SDCA has plenty of material to serve as the sole or primary textbook, and is well designed for such use. It would make an excellent choice for a capstone course: it is about the right level, it covers many different issues, concepts and theories and, perhaps more importantly, it encourages using biological, social and cognitive approaches to an engaging topic in an integrated fashion. SDCA also deserves to be highly recommended for use outside the classroom as a comprehensive survey and synthesis of research and theory in this complex and highly controversial area.

Emotional Development: A Biosocial Perspective

by Peter LaFreniere. Belmont, CA: Wadsworth, 2000; 331pp). ISBN/ISSN 0-534-34808-4; List Price: \$75.95

Reviewed by Kevin MacDonald, Department of Psychology, California State University at Long Beach, Long Beach, CA 90840-0901

Peter LaFreniere has written an excellent textbook in the area of children's emotional development. Evolutionary perspectives are emphasized throughout, but the book also reviews data from a variety of important contemporary perspectives, thus making it suitable for use as a text for just about anyone teaching a graduate course or an upper division course in the area of social, emotional, and personality development.

LaFreniere received his Ph.D. from the Institute for Child Development at the University of Minnesota working with Bill Charlesworth and Alan Sroufe. The influence of these two scholars is apparent throughout the book. The ethological influence in LaFreniere's writing stems from Charlesworth, a pioneer in the attempt to infuse Darwinism into the

mainstream of research in child development. The book contains an entire chapter on evolutionary perspectives, beginning with Darwin, classical ethology (Lorenz and Tinbergen), an extended example on the evolution of Primate facial expressions, and recent work in human ethology. There is also an excellent chapter on the psychobiology of emotion, including a fine integrative section that attempts to reconcile the sometimes conflicting perspectives. Later chapters emphasize the biological and evolutionary roots of emotion and personality systems. In keeping with the ethological tradition, there is great emphasis on research on the encoding and decoding of emotional expressions.

LaFreniere provides excellent summaries of all the currently influential perspectives in the field of emotional development, including non-evolutionary perspectives such as social constructionist theories. Following the chapters on evolutionary perspectives and the psychobiology of emotion, Chapter 4 discusses historical and current psychological theories of emotion, including coverage of Freud, Erikson, Lazarus, Arnold, Oatley, Lewis, Campos, Ekman, and Izard. Cognitive appraisal is central to all modern theories of emotion. At the extreme, the importance of cognitive appraisal is exemplified by extensive coverage of the work of Alan Sroufe who proposes that children come into the world with emotion "prototypes" or reflexive responses to environmental stimuli that, in Sroufe's view, do not qualify as emotions because of the absence of a role for cognitive appraisal. In Sroufe's analysis, true emotions, such as anger, do not develop until the infant is able to evaluate the content and meaning of a specific event, with no implication that there are innate links between appraisals of specific events and emotional reactions.

Chapter 5 describes the development of basic emotions in infancy (fear, anger, disgust, etc.), with special emphasis on the increasing role of cognitive appraisal as children mature. Chapter 6 reviews the massive literature on attachment, a topic that is central to evolutionary perspectives on social development. Chapter 7 describes emotional development in the post-infancy period, with special emphasis on emotion regulation and the social emotions of empathy, sympathy, and guilt. Chapter 8

describes individual differences in emotional styles, the field of temperament and personality development. This chapter includes developmental and evolutionary perspectives on the Five Factor Model, a section on the behavior genetics of personality, and a section discussing research on children's popularity with their peers. Chapter 8 discusses the social context of children's emotions, including extensive discussion of children's use of deception and research on children's theory of mind. The final chapter describes the development of emotional maturity in adolescence. The book also includes a glossary of terms.

At several points LaFreniere persuasively integrates the data in various areas of this notoriously difficult field. For example, the chapter on the psychobiology of emotion highlights the research of Joseph LeDoux who shows that different emotions are mediated by different brain systems that evolved to solve particular problems in our evolutionary past. Focusing on fear, LeDoux provides evidence for a phylogenetically ancient fear system centered in the amygdala and triggered by specific stimuli that signal recurrent dangers of the animal's evolutionary past. While this pathway is the only pathway available in lower vertebrates, higher vertebrates, including, of course, humans, also process fear-inducing stimuli by a slower route through the cortex that involves cognitive appraisal of the event. In his discussion, LaFreniere finds evidence for specific evolved fears, such as infants' fear of strangers and separation anxiety. However, he also emphasizes the fact that fear can be classically conditioned to specific stimuli that were not recurrent features of our evolutionary past, even after a single trial in which the infant observes the facial expression of its adult caregiver.

This book therefore does not sink into the fever swamps of evolutionary psychology, with its exclusive emphasis on domain-specific mechanisms designed to solve recurrent adaptive problems in our evolutionary past. Students are exposed to ideas such as the modular brain, domain specificity, and adaptation, but there is also a healthy emphasis on domain general mechanisms of cognitive appraisal. As LaFreniere notes, "Evolution is better served by constructing an organism capable of evaluation and observational learning than by constructing

hundreds of specific reflexes for the myriad potentially dangerous events facing a primate" (p. 128). Evaluation of the danger potential of complex, non-recurrent events is the province of the cortex. The design of the human fear system as having both open and closed aspects allows for adaptive fear behavior not only in environments that were dangerous in the EEA, but also in environments far removed from our evolutionary past. This is not to say that LaFreniere slights the importance of domain specific systems that evolved to solve specific problems of our evolutionary past. For example, there is a great deal of emphasis on automatic sending and reading of facial expressions, mechanisms that undoubtedly operate now much as they always have.

Like all good textbooks, this book must therefore be seen as making an important contribution to the field. The book will be useful to all seeking a text for a graduate course or an upper division undergraduate course in emotional development or related areas such as social and personality development. Non-evolutionists will be exposed to a compelling account of evolutionary ideas, and evolutionists will be forced to confront the reality of the human brain as containing a variety of both open and closed genetic programs.

Evolutionary Principles of Human Adolescence

By Glenn Weisfeld. Basic Books, 10 East 53rd Street, New York, NY 10022, <http://www.basicbooks.com> 1999, xiii + 401p. ISBN 0-8133-3318-0 [Pbk, \$25] and [Hdbk, \$65].

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

For years, traditional psychologists resisted evolution-based explanations on the grounds that such explanations neglect the role of culture. The irony, apparent to the readers of any serious works in evolutionary psychology or human ethology, is that evolutionary explanations of human behavior almost by necessity take culture very seriously. A basic premise of Glenn Weisfeld's *Evolutionary Principles of Human Adolescence* is that adolescence as a human

phenomenon cannot be understood simply by viewing it in modern Western cultures. The characteristics that genetically distinguish humans from other primates came about during the 99% of our evolution that we existed as hunter-gatherers, and the human genotype interacts with modern cultural settings to produce the phenotypic behavioral characteristics, including those associated with adolescence, that we see today.

What, fundamentally, is adolescence all about? From the biological, cross-cultural, functional perspective that Weisfeld presents, the answer is pretty obvious. It is fundamentally about sex: a fact that is remarkably underplayed in so many other books about adolescence. It is not fundamentally about formal operational reasoning, or the search for an ideological and occupational identity, or a personal fable. Adolescence is first and foremost a time of sexual maturing, sexual differentiation, heightened sexual drive, and heightened drive to do those things that will assure success in attracting an appropriate mate. Adolescence is the time in life when males and females of our species are most different from one another and most concerned with manifesting those differences as part of the task of attracting the other sex. In Weisfeld's words, "we can scarcely say anything about adolescents unless we specify their sex" (p. 63). Secondarily, and complementing the concern with attracting a mate, adolescence is a period of distancing oneself from parents and establishing one's status as an adult.

Weisfeld develops his evolutionary analysis of adolescence in 15 chapters. Chapter 1, The Biological Approach, includes a clear exposition of the concepts of evolved behavioral traits and ultimate causation. Chapter 2, Motives, presents the theses that motives lie at the base of human behavior, that motivation and emotion are essentially indistinguishable concepts, and that adolescence is fundamentally a period of change in motives. Weisfeld does not deny the importance of cognition, but argues that "the cortex still serves the subcortex 'the seat of motivation' rather than the reverse" (p. 21). The discussion of motivation continues in Chapters 3, Social Motivation, and 4, Pride and Shame. Here Weisfeld discusses the roles of various kinds of social ties in human survival and reproduction, the relationship of pride and

shame to dominance and social acceptance, and the changes in social motives that accompany adolescence. Chapter 5, *Sex Differences in Reproductive Behavior*, describes the basics of sexual selection and Trivers's theory of parental investment and relates these to the motivational differentiation of boys and girls at adolescence.

Chapter 6, *The Social Context of Human Adolescence*, outlines the conditions of life, and particularly of adolescence, in hunter-gather cultures and contrasts these with the conditions in modern Western cultures. One conclusion here is that the existence of a separate youth culture, with its own values, probably stems from the unusual degree of age segregation and lack of opportunities for adolescents to interact with adults or to contribute to the economy that occurs in modern Western cultures. Chapter 7, *Puberty Rites*, describes the functions that such rites serve for traditional communities and for the young people being initiated. According to Weisfeld's analysis, such rites serve different functions for boys and girls. Puberty rites typically come late in adolescence for girls and early in adolescence for boys. The rites initiate girls into adulthood (and eligibility for marriage) and boys into adolescence (a period of proving themselves that precedes marriage).

Chapter 8, *Pubertal Changes in Primates*, includes an elaboration of the idea that there is an advantage to slow growth during the juvenile period among primates in general and that the adolescent growth spurt evolved to compensate for that slowdown. Chapters 9, *Pubertal Changes in Boys*, and 10, *Pubertal Changes in Girls*, discuss the adaptive values of the various secondary sexual characteristics that develop in each sex during puberty. Chapters 11, *Boys' Peer Relations*, and 12, *Girls' Peer Relations*, discuss, cross-culturally, the nature of boys' and girls' peer groups and the characteristics that lead adolescents of each sex to be popular with the other sex as well as with their own. Here the discussion is based mostly on studies in modern cultures. It would be nice to have more comparative information concerning these topics in hunter-gatherer societies, but perhaps such information is lacking.

Chapter 13, *Sexual Relations*, includes discussions of the biological bases for sexual orientation, sexual differences in what is

sexually arousing, and the effects of social and economic conditions on marriage and the structure of families. Chapter 14, *Parent-Adolescent Relations*, describes the correlations that have been found between such family variables as parental style, divorce, and father absence and the behavioral characteristics of adolescent boys and girls. It also describes the emotional distancing that occurs between adolescents and parents and the achievement by adolescent boys of dominance over their mothers. Chapter 15, *A Model of Human Adolescence*, is a summary chapter that briefly reviews the major concepts presented in the book.

My criticisms of this work are minor. Like many surveys, this book tends too often to present conclusions from research without enough of the actual evidence to allow the naive reader to see just where the conclusions are coming from. Some citations are to textbooks and other secondary sources rather than the original studies. Some correlational results (such as those relating family characteristics to adolescents' behavior) are presented as if they imply cause and effect, without any discussion of alternative interpretations. Overall, I would have preferred a bit more elaboration on some of the key issues pertaining to adolescence and a bit less on topics (such as the origin of bipedalism) that seemed like digressions.

Despite such quibbles, I strongly recommend the book. It is written in clear, intelligent prose, quite readable by the typical undergraduate but not beneath the graduate student or professional seeking to survey the topic of adolescence from a biological perspective. The reader will learn much not just about adolescence, but about the evolutionary/ethological/sociobiological approach to understanding human beings in general. Weisfeld assumes of the reader little initial background in ethology or evolutionary psychology, and much of the book is devoted to providing that background. If I were teaching a course on adolescent psychology I would use it either as a supplement to a standard textbook or as one of several paperbacks in place of a standard textbook. The book could also serve as the central text in a biologically based course on adolescence, or as supplementary reading in a course on evolutionary psychology or human ethology.

Criminology: A Global Perspective

By Lee Ellis and Anthony Walsh. Allyn and Bacon, 160 Gouldstreet, Needham Heights, MA 02494, 2000, 666 p. ISBN 0-205-18708-0 [Hdbk, \$70]

Reviewed by Arjan A.J. Blokland, NSCR (Netherlands Institute for the Study of Criminality and Law Enforcement), P.O. Box 792, 2300 AT Leiden, Netherlands, Blokland@nscr.nl

The crusade for the acceptance of biology into the field of criminology has not been without casualties. As recent as 1991, Wouter Buikhuisen, the Dutch psychologist and former director of the Research and Documentation Center of the Ministry of Justice (WODC) was forced to resign from his position as a professor at the University of Leiden after repeatedly being attacked by the media for his supposedly fascist and ignorant attempts to integrate biological and social variables in one conceptual model explaining criminal behavior. The academic climate along with public opinion seems to have changed, however, and few sociological orientated criminologists fail to pay lip service to the possible biological underpinnings of criminal behavior (Wright & Miller, 1998). Biologists on the other hand stress the importance of environmental influences in the etiology of criminal behavior. It would however be premature to conclude from these courtesies that the gap between the two parties has closed; in fact it has not. At the 2000 annual conference of the American Criminological Society, only 2 of the 546 sessions had an explicit evolutionary topic. *Criminology: A Global Perspective* is a recently published criminological textbook by Ellis and Walsh that can be seen as an attempt to bridge this gap between biology and sociology in the study of crime.

The book is divided into four major parts, the first of which provides the background needed if one is to progress into the field of criminology. The discussion of the nature of crime leans heavily on Ellis' earlier work (Ellis & Hoffman, 1990) and the extension of the crime-concept to childhood anti-social behavior reveals the comprehensive nature of the intended coverage. Next the origins of criminal law are discussed followed by a brief overview of the problems

criminologists face in measuring crime and comparing crime rates over space and time. The last chapter of Part 1 contains the perfunctorily synopsis of the philosophical roots of the discipline.

Part 2 handles the vast array of variables that are known to be associated with criminality. Precluding bias, Ellis and Walsh have deliberately chosen not to be selective in their rendering of what is known about the correlates of crime (p. xx). This choice has resulted in five encyclopedic chapters, spanning no less than 200 pages and containing dozens of tables. The tables are easy to read and contain both American as well as many European studies. To keep the book's reference list within limits, the authors have made the complete references of all the studies cited in the book available on the web at <http://www.abacon.com/ellis/>.

Part 3 consists of an overview of current criminological theories in which the essence of every theory is briefly described, as well as how good the theory is in explaining what is known about the correlates of crime as mentioned in Part 2. Equal attention is given to sociological as well as biological and evolutionary theories of crime. Again comprehensive tables are given when relevant. The final part of the book deals more elaborately with specific types of crime.

The eclectic nature of the book is both its strength and its weakness. The book offers one of the most comprehensive overviews of the field of criminology available today. The theoretical scope of the book is refreshing, and throughout there is ample attention to an evolutionary point of view. Although Ellis and Walsh are themselves clearly biased towards a biosocial approach (e.g. Ellis, 1987; Walsh, 1991), they have succeeded in writing a textbook that deals with both evolutionary theories on crime as well as the possible evolutionary roots of the concept of crime and the criminal justice system without becoming obtrusive. The downside of the authors' attempt to be all embracing and unbiased is, that apart from the hint given to instructors not to drown their students in the chapters on the "correlates of crime" (p. xxi), the unwary reader is offered little guidance on his journey into the realm of criminology. Little attention for example is paid to the empirical validity of the studies cited to illustrate a given

correlate. □ This would have been appropriate especially since the fads and fancies of sociological criminologists include the degrading of the quality of twin studies used by biological orientated theorists to demonstrate genetic influences in crime causation.

On the theoretical level the reader may be left with the impression that every theory dealt with is to be conceived as an island. The book contains a chapter on integrated theories, but in my opinion this does not do justice to the many transverse connections between the various theoretical families and the concepts they use. Remarkably, this is especially true for the evolutionary theories. Current criminology is plagued by the massive number of theories trying to explain deviance; 300 theories have been mentioned and still counting. In the book's present format evolutionary theories just seem to add to this dread. I feel it would have been better to put more emphasis on the value of evolutionary theory as an overarching paradigm in criminology; one that provides an additional (namely, the ultimate) level of analysis that can be used to integrate different existing insights. The most promising way to do this is to ingest the proximate mechanisms mapped out in detail by sociology into an ultimate framework. While similarities between Mealey's (1995) first and second order psychopaths and Moffit's (1993) distinction between adolescence-limited and life-course-persistent offenders are briefly mentioned, noticeable connections between Gottfredson & Hirschi's (1993) "self-control" and the behavioral ecologists' concept of a short term reproductive strategy (Grometstein & Bartlett, 2000) are left unrecorded. In this sense, the opportunity the book provides to focus attention on the evolutionary perspective on crime and its causes has not been exploited to its utmost.

Ellis and Walsh may have reasoned that to be unknown is to be unloved and that, therefore, the first step towards true acceptance of biology into the field of criminology is to let criminologists get acquainted with evolutionary theorizing. Their book effectively takes this first step. Once acceptance is obtained and prejudice put aside, evolutionary criminology, in concurrence with sociology, will have a chance to prove its worth by explaining deviant behavior as diverse as serial killing, fraud and embezzlement, rape, and participation in an outlaw motorcycle gang.

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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.** The fact that material appears in the newsletter never implies the truth of those ideas, ISHE's endorsement of them, or support for any of them.

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 Psychology Department
 College of St. Benedict
 St. Joseph, MN 56374 USA
 tel. 1-320-363-5481
 fax 1-320-363-5582
 e-mail: lmealey@csbsju.edu

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 82346 Andechs
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 for Urban Ethology/Human Biology
 Althanstrasse 14
 A-1090 Vienna, Austria
 tel. 49-815237355
 e-mail: karl.grammer@univie.ac.at

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

Membership Chair

Astrid Jütte
 Ludwig Boltzmann Institute for Urban
 Ethology, Institute for Human Biology
 Althanstrasse 14
 A-1090 Vienna, Austria
 e-mail: astrid.juette@bigfoot.com

ISHE Welcomes New Secretary

Congratulations to **Frank Salter** on his recent election to the post of ISHE secretary. Frank is succeeding **Karl Grammer**, who will now devote his time to managing the ISHE website. Many Thanks Karl for the active and constructive role you have played on ISHE's behalf for many years.

For those members who have not yet made Frank's acquaintance, he is an Australian transplant to Germany where he is currently a research scientist at the Research Center for Human Ethology in the Max Planck Society at Andechs.

Frank has published two notable works in human ethology: Emotions in Command: A Naturalistic Study of Institutional Dominance (1995) and edited volume with Eibl-Eibesfeldt entitled Indoctrinability, Ideology, and Warfare: Evolutionary Perspectives. (1998).

Frank has also conducted ethological comparisons of urban rioting and tribal fighting using police archives and ethological films housed at Irenaeus Eibl-Eibesfeldt's Max Planck Ethological Film Archive, Andechs, to which he is attached. In recent years his research interest has turned to the study of ethnic nepotism as formulated by Eibl and Pierre van den Berghe. An observational study of street begging in Moscow with Marina Butovskaya and students (2000, Human Nature 11/2) found evidence of ethnic favouritism, and the study is now being extended to other European cities and possibly to the United States. Frank has two symposiums forthcoming that deal with ethnic effects on risky transactions and the welfare state, and is completing a monograph on ethnic stratification and social technologies in the US. Currently he is organizing, with Marina Butovskaya, a Moscow summer school on human ethology to be conducted in June 2001.

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New Books

Compiled by Tom Alley

Ashworth, P. *Psychology and eHuman Nature*. Psychology Press, 2000. 198p. ISBN: 0415-213002

Allport, S. *The Primal Feast: Food, Sex, Foraging and Love*. Crown Publishing, 2000. 256p. ISBN: 0609601490 [underreview]

Avital, E., & Jablonka, E. (eds.). *Animal Traditions: Behavioural Inheritance in Evolution*. Cambridge Univ. Press, 2000. 432p. ISBN 0521-662737

Brown, Andrew *The Darwin Wars: The Scientific Battle for the Soul of Man*. Simon & Schuster Intl., 2001. 256p. ISBN: 0743203437

Carruthers, P., & Chamberlain, A. (eds.). *Evolution and the human mind: Modularity, language and meta-cognition*. Cambridge Univ. Press, 2000. ISBN 0521-78331-3

Dugatkin, L. A. *The Imitation Factor: Evolution Beyond the Gene*. Free Press, 2001. 243p. ISBN: 0684864533

Gilbert, P., & K. G. Bailey (eds.) *Genes on the Couch: Explorations in Evolutionary Psychology*. Philadelphia: Brunner-Routledge, 2000. 384p. ISBN: 1-58391-1022

Goldsmith, T. H., & Zimmerman, Wm. F. *Biology, Evolution and Human Nature*. Wiley, 2001. ISBN 0471-18219-2

Hartley, L. *Physiognomy and the meaning of expression in nineteenth-century culture*. Cambridge Univ. Press, 2001. ISBN 0521-79272-X [underreview]

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