

References

- Aberle, D. (1961). Matrilineal descent in cross-cultural perspective. In D. M. Schneider & K. Gough (Eds.), *Matrilineal Kinship* (pp. 655–727). Berkeley: University of California Press.
- Burton, M. L. (1996). Constructing a scale of female contributions to agriculture: methods for imputing missing data. *Cross Cultur Res* 30, 3–23.
- Burton, M. L. & D. R. White. (1984). Sexual division of labor in agriculture. *Am Anthropol* 86, 568–583.
- Jorgensen, J. G. (1980). *Western Indians*. San Francisco: W. H. Freeman and Company.

© 2000 Elsevier Science Inc. All rights reserved.

PII: S1090-5138(00)00034-9

Ever Since Adam and Eve: The Evolution of Human Sexuality. By Malcolm Potts and Roger Short, New York, NY: Cambridge University Press, 1999, 268 pages, ISBN: 0-521-64404-6, \$29.95 (US)

Ever Since Adam and Eve: The Evolution of Human Sexuality is about how natural selection has shaped the anatomy, physiology, and behavior of human reproduction. The book, however, is not a mere survey of recent research in human reproduction. Potts and Short argue that a Darwinian perspective of human sexuality will be necessary to resolve the health and resource challenges of the 21st century. They justifiably claim that sexuality impacts every stage of the human life course from conception through senescence, and the book is organized around this theme. *Ever Since Adam and Eve* is primarily Potts and Short's answers to three questions they pose for each stage in the life course: "What are the biological foundations underlying our behavior? How have various historical and contemporary cultures built upon these foundations? What new insights can be gained into current problems, both to help the individual and for the community at large?" (p. 1).

Potts and Short answer these questions in a colorful and lively manner. They argue that reproduction influences our lives in their entirety, and, therefore, no aspect of the human condition is beyond "Darwinian evolution," the theoretical backbone of the book. One of the stated goals of the book is to present humans in a broad perspective, and in this the authors are extremely successful. The authors discuss each of the life stages in a variety of cultural contexts, and they leave no aspect of human culture untouched. Of course, this broad perspective limits any in-depth discussion of the material that they cover, and readers are only left with a cursory understanding of the impact of natural selection on the human condition. The authors are aware of this limitation, and they probably have chosen the best strategy for the popular audience they want to reach.

As a popular introduction to the evolution of human sexuality, *Ever Since Adam and Eve* is a remarkable achievement. The collection of poems, anecdotes, etymologies, paintings, photographs, famous quotations, myths, Biblical verses, and bits of trivia (did you know that a 5-year-old Peruvian girl gave birth to a living child in the 1970s?) is astonishing as well as entertaining. The text is written clearly and logically and moves from subject to subject with ease. The sharp photos and attractive paintings can be appreciated even by those like myself who generally prefer empirical data to artwork. The wealth of information is occasionally a

distraction from the primary arguments, but more often one is left with an appreciation for the care with which all of the material was assembled.

Although most readers of this journal will primarily be interested in the suitability of *Ever Since Adam and Eve* for use in their courses (below I discuss how my students responded to the book), it does not appear to have been written with students in mind. The book was clearly written for a wide public audience. Technical terms are avoided whenever possible; paintings and poems do not complement the data, *they are the data*. While reading *Ever Since Adam and Eve*, I made the comment to a colleague that it reads like a video. The images and emphasis on extraordinary and dramatic phenomena give the readers the impression that they are watching a Hollywood production. I was not surprised to subsequently learn (after reading the Preface) that the material for the book was originally prepared for a television program that never materialized. With the abundance of information in this book, it is unfortunate that a video was not produced, and hopefully with its publication interest in a companion video will be generated.

The organization of the book is excellent and enables Potts and Short to achieve their goals. The book can be considered in three clusters of chapters: sexual selection (Chapters 2–4), ontogeny (Chapters 5–7), and impact of reproduction on society (Chapters 8–12), with a chapter on senescence (Chapter 11) falling somewhat outside this scheme. The closing chapter (Chapter 13) reminds readers of our place in the natural world and considers the implications of a Darwinian view of life. What follows is a brief description of each chapter.

The book opens with a chapter on natural selection and its relevance for understanding human sexuality. Readers with no background in the theory of natural selection will need other sources to understand natural selection in any depth. However, for those with sufficient background in evolutionary theory, the chapter provides interesting historical information, including a short history of reproductive science. The next three chapters cover the basics of sexual selection that you may expect in any introductory level book. As throughout the book the “fantastic,” such as a picture of a Karamajong man whose penis is tied in a knot, is mixed with the more mundane facts of sexual selection, although little is actually mundane in this book. The main topics include sex differences, marriage patterns, and mating strategies. In the middle of this group of chapters is also a discussion of gender, which typically is not found in introductory texts on human mating from an evolutionary perspective. Although this is a topic I also do not generally address in lecture, as an anthropologist this is a welcome addition to the discussion because most anthropology students who take their first class based on a neo-Darwinian perspective are interested in a biologist’s view of gender.

The discussion of sexual selection in Chapters 2–4 is followed by three chapters on somatic effort and ontogeny. The first of these chapters, “Sex and Pregnancy,” is unfortunately loosely organized and nearly drowns the reader in distractions. Much of the material seems irrelevant to the goals of the book, such as a full-page reprint of Demi Moore’s controversial pregnancy pose that appeared on the cover of *Vanity Fair*. Of greater relevance, but receiving similar space, is a discussion of embryonic development. Chapter 6 presents the reader with a vivid history of breastfeeding, and the importance of breastfeeding as a mammalian reproductive strategy also is discussed. As always there are plenty of interesting anecdotes, including that of Mary Toft who hoaxed giving birth to rabbits. “Growing Up” (Chapter 7) is one of the more informative chapters in the book. Age at menarche, parental investment, and sex differences in development are all discussed with appreciation for the cultural diversity and

phenotypic plasticity of these traits. It is a shame, however, that they did not rely on more of their own research, such as Potts' work on the developmental sequence of puberty.

With the exception of Chapter 11, "Sex and Mortality," the next group of chapters discusses the impact of sex on the creation of human society and its continuing impact on all cultures. The "Civilization of Sex" (Chapter 8) begins with a discussion of the evolution of language, relying heavily on Robin Dunbar's recent work. After describing how language unites individuals, the discussion logically moves to intergroup conflict in humans and chimpanzees. This is followed by a survey of the high points in technological development throughout human history. The chapter closes with some brief but appropriate notes on the evolution of morality.

"Sex and Power" (Chapter 9) highlights some of the different reproductive strategies that males use to control females, or, as has been argued, females use to compete for males. The discussion is culturally broad and includes customs and rituals such as foot binding and female genital mutilation. "Dying for Love" (Chapter 10) is an important and often tragic chapter. It begins with a discussion of parasites and the evolution of sex. This discussion serves well as an introduction to the primary focus of the chapter, sexually transmitted diseases, with a particular emphasis on AIDS. AIDS is clearly a topic that is close to the heart of the authors, and their interest, knowledge, and concern are well communicated.

Continuing with the theme of death, the following chapter is entitled "Sex and Mortality." This chapter is unfortunately among the least successful in the book. The chapter includes a five-page discussion of "life after death," yet none of the leading models of the evolution of senescence (e.g., antagonistic pleiotropy, mutation accumulation, disposable soma theory) are presented. In the discussion on the evolution of menopause, the evaluation of the "grandmother hypothesis" in the hunter-gatherer literature (Hawkes et al., 1989; Hill and Hurtado, 1991, 1996) also is missing. Curiously, only proximate explanations of senescence and menopause are presented, and the ultimate explanations provided throughout much of the book are noticeably absent.

Chapter 12 discusses world population growth and some of its implications for the future. There is a missed opportunity here to present some of the recent work done by evolutionarily minded researchers such as Hillard Kaplan (1996, 1997) on the demographic transition and fertility decisions in the modern ecology. This is unfortunate, because Kaplan's work has attempted to understand the evolution of the human life course in its entirety and thus would seem to be especially appropriate for this book. The absence of Kaplan's work, however, is symptomatic of a larger problem: There is no discussion of life history theory in the entire book. Life history theory is currently the only body of knowledge that can unite the disparate phases of the human life course into a coherent picture (Hill and Kaplan, 1999), yet it is never mentioned.

Life history theory also would have provided some useful insights into Potts and Short's most serious concern: the failure of many individuals to heed the advice of the medical community (Hill, 1993). Instead of considering the tradeoff humans face between reproductive and somatic effort as a possible explanation for why individuals do not invest all of their energy into health and maintenance, they focus on religion as an institution at odds with the medical community. Unfortunately, religion is portrayed as a force outside of evolutionary pressures that "stymie[s] the rational development of moral decision making" (p. 333) and influences humans to behave in ways that are not in their own, or anyone else's, interest. It

would appear to be more productive to consider why humans universally adhere to religious beliefs, and what the selective pressures have been that have shaped such a human psychology. In addition, religions are not stagnant and generally do respond to changing societal conditions, even if not at the same pace as other cultural institutions. For medical practitioners who offer advice that is in conflict with the religious practices and beliefs of a community, understanding the function of those beliefs would seem to be the most prudent strategy for providing the care that practitioners deem necessary. By understanding the function of the beliefs, practitioners may be able to alter the costs and benefits of maintaining those beliefs, rather than hoping that people will simply abandon their beliefs because of the overwhelming logic of the practitioner's arguments.

Most readers of this journal will be interested in whether *Ever Since Adam and Eve* is useful as an undergraduate textbook. I used it in an introductory undergraduate class on human reproductive ecology. If students are the ultimate evaluators, this book would receive very high ratings. Students enjoyed the clarity of the language and found the style of the text entertaining. As one student commented, "In how many textbooks could I learn that hymn and hymens come from the same linguistic root?" Some students claimed that the tangents were interesting but often distracting. Most students were aware that the text was only providing them with a cursory understanding of the material, although this seemed to concern me more than them. Overall, students were very enthusiastic about *Ever Since Adam and Eve* and enjoyed it much more than any of the other readings I assigned during the semester.

I hope that *Ever Since Adam and Eve* reaches the broad audience Potts and Short are seeking, and that their collaboration continues to produce such lively and engaging work.

Richard Sosis PhD
 Department of Anthropology
 University of Connecticut
 Storrs, Connecticut, USA
 rsosis@uconnvm.uconn.edu

References

- Hawkes, K., O'Connell, J. F., & Blurton Jones, N. (1989). Hardworking Hadza grandmothers. In R. Foley & V. Standen (Eds.). *Comparative Socioecology of Mammals and Man* (pp. 341–366). London: Basil Blackwell.
- Hill, K. (1993). Life history theory and evolutionary anthropology. *Evol Anthropol* 2, 78–88.
- Hill, K. & Hurtado, A. M. (1996). *Ache Life History*. New York: Aldine de Gruyter.
- Hill, K. & Hurtado, A. M. (1991). The evolution of reproductive senescence and menopause in human females. *Hum Nat* 2, 315–340.
- Hill, K. & Kaplan, H. (1999). Life history traits in humans: theory and empirical studies. *Annu Rev Anthropol* 28, 397–430.
- Kaplan, H. (1996). A theory of fertility and parental investment in traditional and modern human societies. *Yearbook Phys Anthropol* 39, 91–135.
- Kaplan, H. The evolution of the human life course. In *Between Zeus and the Salmon: The Biodemography of Longevity* (pp. 175–211). Washington, DC: National Academy Press, National Research Council, 1997.