

Book Reviews

Form and Function: A Study of Nutrition, Adaptation, and Social Inequality in Three Gurung Villages of the Nepal Himalayas. By S.S. Strickland and V.R. Tuffrey. 304 pp. London: Smith-Gordon and Co. 1997. \$50 (paper).

The opening chapter of this volume begins with the questions, "What is the biological significance of human social inequality? What is the social significance of human biological variation?" The authors' thesis is that "social inequality mediates processes of natural selection within human groups" (p. 1). Chapter 1 includes a proposed social mobility model (Figure 1.1), identifying pathways investigated empirically, which corresponds broadly to chapter themes and is a central framework for the study and the book. Variables in the model include child growth, adult body size, morbidity/infertility and costs, physical work capacity and work output, and the "current nutritional and social economic plane of the household." Study populations in Nepal were chosen because of preexisting social economic material, the physical exertion required by rural subsistence, and "the extent of social inequality and ethnic diversity in the country and that the Nepalese have been cited as one example of a population in which the majority are 'small but healthy'" (p. 4). Other notions questioned in this volume include the "vicious cycle" model of poverty and malnutrition and the belief that children and reproductive-age women are the most vulnerable links in the cycle. This study intends to refocus attention on the importance of adults and physical work capacity to intergenerational well-being.

Part I lays theoretical and methodological foundations, discussing conceptualizations of "nutritional adaptation" and how measures of "nutritional status" are operationalized in the present study. Part II sets the social context by describing the study area and dietary patterns and the management of morbidity and health care. The two groups investigated are "Mongoloid" (chiefly Tibeto-Burman-speaking Gurung/Tamang/Thakali/Magar) and "non-Mongoloid"

(Nepali-speaking Brahmins/Chetris and occupational castes). Part III details growth patterns of Nepali children, adult size and physique, and household anthropometric status. Part IV addresses energy expenditure and physical work capacity, seasonal variation in energy balance and activity, and work productivity as a function of physique. Finally, Part V considers population social economic structure: household wealth, income, food security, and strategies for coping with economic hardship. These are considered in relation to adult physique, as is the extent to which adult physique predicts reproductive success. All pathways are then linked with "current household nutritional or social economic plane" by an attempt to examine social economic mobility over the preceding two decades.

This is an ambitious undertaking. In their preface, Strickland and Tuffrey acknowledge tensions and unresolved issues underlying their discussion and their hope that they achieve nonetheless a "measure of coherence." Daunting conceptual and methodological difficulties are apparent in the first chapter. Overall, the authors present a thoughtful and concise overview of previous and current thinking regarding linkages among the cultural fact of social stratification, its biological (phenotypic) outcomes in human groups, and the evolutionary process (natural selection) that might mediate changes in *both* of these. But where and how is the line to be drawn between gene-based changes in phenotype (e.g., height) and the changes described later in this chapter as potentially resulting from "... genomic imprinting in utero which may determine patterns of future growth across generations through epigenetic inheritance mechanisms"? Changes in physique that are heritable are not necessarily genetic. That such changes are socially and/or physiologically maladaptive is defensible, and that is where the greater strength of this volume lies, in associations that point strongly to the functional significance of adult anthropometric variation. But whether the book succeeds, as the authors hoped, in demonstrating "a significant causal relationship between adult physical body size and household welfare" (p. 43) is unclear.

The authors align their work theoretically with evolutionary ecology, which offers several analytical levels for considering how social stratification of biological properties can arise. G. Ainsworth Harrison's 1993 chapter is cited for noting that physiological ability which influences access to better environmental conditions will be strongly favored through greater reproductive success. However, in an earlier work, Harrison (1987) cautioned that genes in the upper social classes can be favored simply as a by-product of differential mortality/fertility, not because they necessarily caused the differential mortality/fertility. Relative lack of social mobility, not selection itself, is the stratifying agent. As Harrison (1987) noted, this "is operationally indistinguishable from the genetic model" (p. 755). Strickland and Tuffrey allude to this on p. 4, but they do not ever indicate how they disentangle result from cause, nor prove association equals causality.

A very close reading of Chapter 3 (study design and methods) is absolutely essential to evaluating conclusions. Both qualitative and quantitative methods are used. The data set is complex, incorporating cross-sectional and longitudinal measurements. The authors indicate where measurement error or other bias is likely and discuss the reasons for their decisions regarding sample constitution and statistical analyses and indices chosen. Their hope is that "the limits to methodological rigor and precision will be clear and allow comparison with other studies to be made on an informed basis" (p. 34). The anthropometric chapters (7–9) are particularly dense in tables and figures, whose quality is uneven (Table 8.1 contains what must be an error for Mongoloid women's mean height). The major anthropometric finding seems to be that non-Mongoloid children are worse off than Mongoloid, although we have no basis for evaluating the extent of possible (genetic) population differences in the timing and character of growth. The remaining chapters on energy expenditure, physical work capacity, and seasonal energy balance (Chapters 10–12), followed by household economic strategies, population dynamics, physique, and social mobility (Chapters 13–15), are much more clearly rendered. Particularly effective and informative are case studies illustrating major points in Chapters 13 and 15. Where pathways in their model are not fully supported

by their data, the authors discuss likely reasons. Chapter 16 concludes with a thoughtful discussion of their framework, its utility and its failings, as well as policy implications. Appendices I–IV include questionnaires, maps, methods (instrumentation, calibration, their multilevel statistical modeling technique), and more anthropometric tables.

If this volume is given a careful reading, in the context of sufficient prior experience to enable sound judgments on data comparability or validity, then its potential value is great. Its primary strengths lie in a clear and explicit discussion of proxy measures, the reasoning behind analytical decisions, and the demonstration of the utility of insight into specific population dynamics. The authors conclude that they have found "evidence to support the framework as a valid representation of at least some of the processes resulting in social economic mobility" (p. 215). I agree. More problematic is their assertion that "If social inequality is seen as a vehicle for natural selection processes, then this . . . can be read as an analysis of how processes which sustain social inequalities represent short-term processes contributing to evolution by natural selection." In any case, Strickland and Tuffrey have provided a valuable foundation for future work.

LITERATURE CITED

- Harrison GA. 1987. Social heterogeneity and biological variation. *Man* 23:740–756.
 Harrison GA. 1993. Physiological adaptation. In: GA Harrison, editor. *Human adaptation*. Oxford: Oxford University Press. p 55–72.

LINDA S. CURRAN
Department of Anthropology
University of Colorado, Denver
Denver, Colorado

Annotated Bibliography in Human Ecology, Vol. 1. Edited by Anna Siniarska and Federico Dickinson. 350 pp. Delhi: Kamla-Raj Enterprises. 1996. \$70.00 (cloth).

This book is a collection of just over 1,000 titles and abstracts of research investigating the following major topics in human ecology: philosophical problems of human ecology, social and biological problems of human environments, ecological problems of human biology, and cultural adaptational

behavior. The book is a product of the Commission of Human Ecology (CHE), International Union of Anthropological and Ethnological Sciences; it was funded in part by UNESCO's International Council for Philosophy and Humanistic Studies.

The citations and abstracts that appear in this volume are not the result of a systematic search of journals, journal articles, or books. Instead, the editors sent approximately 1,000 letters to individuals and institutions requesting abstracts. Most of the individuals contacted had been participants in international conferences on human ecology and, for most, English was a second language. The works of "about 190 persons" were included in the bibliography. By my count, approximately 40% of the authors and editors whose works were cited were from European countries outside the United Kingdom, and another 15% were from non-English-speaking countries outside Europe. Approximately 10% of all works cited were contributed by the editors or by Napoleon Wolanski, chair of CHE and originator of the idea to create the bibliography.

The term *human ecology* can mean many things to many people, as the editors of the book note in their preface. It is to their credit that they have restricted the scope of human ecology to a reasonable set of research areas but managed to maintain a "transdisciplinary approach." Areas represented include history of human ecology, human ecological theory, bioethics, environmental pollution, environmental management and conservation, ecological politics and economics, urban ecology, ethnic ecology, human growth and development, aging, mechanisms of adaptive change, environmental physiology, epidemiology, ecology of health and nutrition, ecology of the family, biological effects of demographic changes, gene diversity related to the environment, secular changes, cultural adaptation, education related to the environment, health and the environment.

Although the names of some of the topic areas suggest otherwise, students of behavioral development, behavioral ecology, and evolutionary psychology will be disappointed in this volume. For instance, the works on child development focus mainly on physical growth and the development of motor skills and those on aging deal mainly with physiological rather than psychological effects. There are no references to some of

the more recent applications of animal behavioral ecology to human populations, such as James Chisholm's ecological theory of the adaptive significance of human infant-caregiver attachments. And, save for two of David Buss's articles examining the evolutionary foundations of human mate preferences, the volume contains no other citations of seminal works in evolutionary psychology (or sociobiology), such as those by Richard Alexander, Laura Betzig, Richard Dawkins, Napoleon Chagnon, Leda Cosmides, Martin Daly, Donald Symons, John Tooby, Robert Trivers, Edward O. Wilson, or Margo Wilson. These omissions do not mean that the editors consider *behavioral* adaptation outside the realm of human ecology. An entire section of this volume is devoted to "Cultural Adaptational Behavior," a part of which is titled the "Sociobiology of Human Populations." Curiously, however, none of the works cited in the sociobiology section appear to have anything to do with an evolutionary analysis of human social behavior.

A major concern I have about this bibliography is its title, which promises a more inclusive set of works than is reported (or *could* be reported in a single volume). It fails to reflect in any way the restrictive criteria used to select abstracts. Perhaps a more accurate title would have been: "An Annotated Bibliography of Selected Works in Human Ecology." Another concern is that, as the editors put it, the abstracts selected for inclusion in this volume show "enormous diversity." Some are well written, descriptive, and concise; others are not. Some of the abstracts consist of only 20 words or so; others contain over 600 words. Much of the benefit of an *annotated* bibliography is lost if the abstracts are poorly written, if there is not enough information provided to convey the gist of the works cited, or if the abstracts are so long that the essentials cannot be comprehended in an efficient manner. In the words of the editors, "For some scientists the abstract is the most important part of the paper." Given this stance, one wonders why more effort was not invested in editing the abstracts for content and length.

In conclusion, contributions from the non-English-speaking scientific community give this book a distinctive character and could be of value to human ecology researchers the world over. However, in view of the editors' restrictive methods of soliciting ab-

stracts, and the rather low response rate, it is far from clear that the abstracts published in this book adequately represent the efforts of the original population of researchers and institutions targeted, let alone the international community of human ecology scholars. In addition, the book's title promises more than any such volume could reasonably deliver. Notably absent from this bibliography is work that focuses on behavioral development and behavioral adaptation. Finally, many readers, regardless of their area of specialization, may be put off by some of the poorly written abstracts. Perhaps the editors' planned second volume will address these limitations.

R. MICHAEL BROWN
Department of Psychology
Pacific Lutheran University
Tacoma, Washington

Matters of Life and Death: Perspectives on Public Health, Molecular Biology, Cancer, and the Prospects for the Human Race. By John Cairns. xi + 257 pp. Princeton, NJ: Princeton University Press. 1997. \$29.95 (cloth).

In an age of information overload, whereby each of us becomes increasingly focused on a narrow subject in order to survive professionally, this collection of essays provides an excellent selection of facts, figures, and profound thoughts on the history of public health and mortality, molecular biology, cancer epidemiology, and demography. The author is a renowned scientist with personal experience in each of these fields over a span of some 50 years of professional work. This is not easy, and we can all benefit from his integration of a micro view from laboratory science to a macro view of populations from a diachronic perspective.

The first chapter, entitled "A History of Mortality," was motivated by his realization that "If I wanted to find out what determines when we die, then I should first study the history of mortality." Data on *Homo sapiens'* past birthrates, causes of death, and survival are discussed based on information gleaned from Paleolithic burial grounds, Roman records and gravestones, the Breslau town registry in the 1690's, statistics on life and death in various European cities from

the end of the 18th century to the current time, and demographic patterns of contemporary hunter gatherers like the !Kung bushmen of the Kalahari Desert. These comparisons show that the average lifespan for most of human history, except the last 200 years, has been around 35 to 40 years. Wealth was also equivalent to health, and the rich in probably all periods have lived longer than the poor. Even today in Western nations with socialized medicine and welfare, the highest social classes live about ten years longer than the lowest.

Figures depicting incidence and fatality trends show that mortality from diphtheria had already declined by 50% before the development of antitoxin treatment, and even more dramatically, some 90% of the decline in tuberculosis deaths occurred before the discovery of an effective antibiotic treatment. These examples illustrate that "prevention due to changes in life-style seems to be making the main contribution to the rise in life-span" in the recent two centuries because only about a third of the drop in mortality is due to causes that are considered treatable, and most decreases were due to reduced incidence of certain diseases.

The next two chapters describe the history of molecular biology, from its basic roots in chemistry, physics, and biology, to Mendelian genetics, bacteriology, and virology. Besides describing in simple terms the findings and contributions of each of these subfields, he also explains the structure, function, repair, replication, translation, and mutation of DNA. Why? Because "Molecular biology, in short, is a clever way of converting a system of information in one dimension (stored in DNA) into a complex, continually changing three-dimensional system that responds appropriately to changes in the cell's environment and, most important, is capable of reproducing itself."

The following two chapters deal with cancer, an example at the molecular level of when cells do not respond appropriately, due to defects from inheritance, mechanistic errors, contact with environmental agents, virally induced mutations, breakdowns in cell to cell communication, poor DNA repair, etc., with the explosion of research in this field. There are also descriptions on the origins of the *src*, *ras*, and *myc* oncogenes, the action of tumor suppressor genes like retinoblastoma and *p53*, and how genetic engineering is operationalized in the laboratory.

Cairns then speculates on how these findings may be used in the future for reducing cancer and its suffering: identifying individuals with inherited susceptibility to cancer, screening and early detection of cancer, deciding on an appropriate treatment, and linking specific mutations with specific causes like CC to TT transitions on the *p53* gene from ultraviolet light exposure. As a testimony to his foresight, recent developments since his writing have already materialized some of his speculations: e.g. the use of antibodies directed against the *HER2/Neu* surface protein to target breast cancer cells in treatment, the association of *ras* oncogene with poor survival, and germline mutations in cytochrome P-450 genes or glutathione S-transferase genes being associated with increased risk for smoking associated lung cancers.

In the chapter on epidemiology of cancer, Cairns discusses the causes of specific cancers like lung, uterine cervix, liver, colon, leukemia, and skin, and the importance of cancer prevention since about one third of the population in developed countries will develop cancer in their lifetime and one fifth will die of it. He also cynically shows that smokers actually save money for a state government because they tend to die around seven years younger than nonsmokers and contribute extra taxes for cigarettes, so overall, the place a lesser burden on medical and welfare systems. He observes that in developed countries, the rich are less likely to smoke than the poor. The former have other forms of gratification and the latter "seem to have decided that their life in old age is not going to be very enjoyable and that it is not worth making sacrifices in their youth in order to gain a few extra years at the far end." My only criticism of this chapter is that he erroneously attributes risk for nasopharyngeal cancer with mongoloid nose structures. Numerous epidemiological studies have shown that this cancer is associated with the consumption of traditionally preserved foods, especially salted fish, and that mongoloid populations that do not consume such foods like Japanese or northern Chinese, have incidence rates as low as that found among those with Caucasian noses.

The final chapter deals with "Population" and gives a detailed account of the differing views of Thomas Malthus, William Godwin, Marquis de Condorcet, Benjamin Franklin,

Charles Darwin and Karl Marx on factors affecting and limiting population growth. Cairns' own views on prospects for the future accepts that human numbers will inexorably increase, but the biggest threat to human survival will not be wars, nuclear bombs, the AIDS or Ebola virus mutating to be a respiratory disease, or other examples of "human folly or misadventure," but will be due to the deleterious effects of human-made climate change from excessive use of fossil fuels. When I discussed this possibility with friends who are atmospheric scientists, some disagreed and said that the earth was a complex system with great resiliency to stabilize temperatures, and that THEY felt the greatest threat to humankind was nuclear war or the spread of a virulent lethal disease. So this may be an example of scientists fearing the lesser known in other fields.

Nevertheless, regardless of your background or professional work, there is much in this book that is food for thought about death and life.

LINDA C. KOO
American Health Foundation
New York, New York

Creating Born Criminals. By Nicole Hahn Rafter. xi + 284 pp. Urbana: University of Illinois Press. 1997. \$36.95 (cloth).

The legacy of eugenics looms over many aspects of American society, and not the least of this is in the assumptions concerning the treatment of those who have been consigned to stints in its penal system. A related mind-set has shaped the administration of a parallel system of institutions that had been created to house those who were not considered mentally competent to lead an independent existence in society at large, that is, the various manifestations of work houses and insane asylums supported in similar fashion by public funds. Decisions determining who should be housed in which, how they should be treated, what their prospects were for a noninstitutionalized future, and why the decision-makers held such views reflect important themes in American social thought. These are illustrated in *Creating Born Criminals* by the device of recounting case histories of various incarcerated individuals and by biographic

vignettes of certain of the creators and administrators of the institutions in question. Some of the latter are displayed as high-minded idealists motivated by admirable good intentions, while others appear as dishonest and appalling sadists.

Nicole Hahn Rafter is a professor in the Northeastern University College of Criminal Justice. Her own good intentions are very clear in her marshaling of case histories to illustrate the way Americans have thought about what it is that justifies judgments concerning institutionalization. She has scoured the records to document her cases. Her writing is clear and easy to read. As a whole, however, her book is a classic example of why a concentration on the description of individual trees does not always lead to a coherent picture of a forest.

The case histories are documented in admirable fashion. Rafter consulted an impressive list of archival sources. However, despite 40 pages of published sources cited and her conscientious efforts to footnote all her facts, there are so many glaringly obvious omissions that the reader is left in a sea of details with no guidance as to how these can be stitched together to make the coherent picture to which they actually do contribute. For example, right at the beginning, she speaks of the influence on her of the work of Michel Foucault and his depiction of the "psychiatrization of criminal danger," but her reference is to Foucault's *Archaeology of Knowledge* (1972). There is no mention made at all of his *Discipline and Punish: The Birth of the Prison* (1977), and yet this is largely what her book is all about.

Johann Friedrich Blumenbach, the 18th century physician who introduced the term *degeneration* into the assessment of human nature, an issue of such importance throughout Rafter's book, is never mentioned at all. Benjamin Rush is referred to only as "the father figure of American psychiatry." There is no mention of biographic treatments such as David Freeman Hawke's *Benjamin Rush: Revolutionary Gadfly* (1971), where he is identified as the only physician to sign the Declaration of Independence. He was not only responsible for bringing the traditions of Scottish medicine to the University of Pennsylvania, but also for bringing the ethos of the Scottish enlightenment and John Witherspoon to the president of what would later become Princeton University. Joseph Parrish,

Rush's successor on the faculty of the Medical School in Philadelphia, is only identified as the head of the Pennsylvania Training School of Germantown. James Cowles Prichard, intermittently misspelled as "Pritchard," long-term president of the Ethnological Society of London and identified by E.B. Tylor as the "founder of modern anthropology," is referred to only as an "English psychiatrist." There is no mention of George Stocking's magisterial biographic treatment in his edited version of Prichard's *Researches into the Physical History of Man* (1973). Both Earnest A. Hooton and Aleš Hrdlička get their names misspelled.

More troublesome is the declaration that eugenic theory mainly flourished in the United States between 1870 and 1920. No mention is made of the role played by eugenics in generating the immigration restriction act of 1924. Sterilization is treated in a selected manner. There is no mention of Harry Laughlin's (1922) Model Sterilization Law or the fact that it was adopted by Adolf Hitler in Germany in 1933 and was one of the initial contributions to what later was to become the Holocaust. Oliver Wendell Holmes' Supreme Court defense of compulsory sterilization in 1927—"Three generations of imbeciles are enough"—is missing. Arthur R. Jensen and the heritability of I.Q., E. O. Wilson and *Sociobiology*, and J. Philippe Rushton and the heritability of "law-abidingness" are also missing.

The mid-19th to early-20th century cases Rafter presents all fit within the context of the conflict between two major themes that America has inherited from its Protestant past: the eternal shackles of ordained predestination in the grim Calvinism of the Puritans and the hopeful enlightenment faith that good works and self-improvement can bring their reward in the world of the present. But this is not mentioned.

C. LORING BRACE
Museum of Anthropology
University of Michigan
Ann Arbor, Michigan

Dysgenics: Genetic Deterioration in Modern Populations. By Richard Lynn. vii + 237 pp. Westport, Connecticut: Praeger. 1996. \$59.95 (cloth).

Sometimes the context of publication is almost as important as the actual publica-

tion of a book. So it is with *Dysgenics*. This book is one of a number of “politically incorrect” books being published by Praeger in its series, “Human Evolution, Behavior, and Intelligence.” The most recent addition to the series is Arthur Jensen’s *magnum opus* *The g Factor: The Science of Mental Ability*. Praeger is to be commended for its courage to produce books that mainline publishers do not have the courage to take on. Wiley, the publisher of this journal, turned down Jensen’s book and depublished Christopher Brand’s similarly titled, *The g Factor: General Intelligence and its Implications*. All scholars should be aware of the new phenomenon of depublishment. I have a fully bound copy of the Brand book sent to me by Wiley. Shortly after I received it and ordered extra copies for a class, I found out Wiley had withdrawn it from distribution. If writing about intelligence (*g* is simply the most plausible theoretical construct underlying IQ scores and their correlates) and genetic influences on intelligence is controversial, one can imagine how controversial it is to write about the genetic decline in intelligence and conscientiousness in modern industrialized societies. Nevertheless, Lynn takes on the task with gusto! It is a must read for scholars interested in the issues discussed. Most readers are aware of the “imperial nature” of the construct of intelligence, the breadth of its correlates, and thus the controversy over *The Bell Curve*. Few readers outside of psychology may be aware that another more diffuse but equally “imperial” construct has arisen in the domain of personality. It once was called “character” (in the sense of moral and ethical quality), but judgmental traits of this sort went out of style in psychology for a long time. Character has returned with a vengeance in the guise of “Conscientiousness,” one of the Big-Five personality traits. It is said to underlie counter productive behavior in the workplace and delinquency and criminal behavior in everyday life. Since it is significantly influenced by genetic factors, it is subject to selection.

Chapter 1 chronicles the rise and collapse of eugenics (coined by Francis Galton) and the introduction of the term *dysgenics* by William Shockley in 1974. Chapter 2 characterizes natural selection in preindustrialized societies. Even though both chapters have been the topic of entire books by other authors, I found that they contained new

and interesting observations. Chapter 3 describes the breakdown of natural selection in modern societies and chapter 4 extends the argument to physical health. As Lynn puts it with regard to health: “Medical progress has meant, and will continue to mean, genetic deterioration” (p. 58). Medical progress also underlies the explosive numerical growth of human populations and the subsequent destruction of virtually all biological ecosystems. While not addressing precisely the same concerns as Lynn, James V. Neel (1994) has stated: “What I see as the larger responsibilities of the human geneticist have received relatively little attention in recent years. It is a great paradox that the human geneticists (read: eugenicists) of 70 years ago, short on specific knowledge concerning the basis of human inheritance, were long on concern for the future; whereas, the human geneticists of today, increasingly long on specific knowledge, fearing the opprobrium of an eugenic label, appear to have retreated from that concern for the future. In a word some difficult decisions must soon be made, if only by default, it is incumbent upon the genetic-minded to come forward with a more holistic approach to the genetic aspects of the present dilemma that is not evident” (p. 394).

Chapters 5 through 7 deal with the topic of fertility and intelligence. This contentious topic is well covered, and I found the evidence persuasive but not dispositive. Chapter 8 tackles the paradox of the secular rise in intelligence in economically developed nations. Unlike his nemesis James Flynn, Lynn believes the increase is genuine and is due largely to improvements in the quality of nutrition received by the fetus and young babies. According to Lynn, the rise in measured intelligence does not undermine the principle of dysgenics trends because what is being enhanced is the phenotype, with genotypes for high intelligence still selected against. Chapter 9 deals with education and differential fertility and concludes, consistent with previous chapters (because intelligence is correlated with educational attainment), that education is dysgenic and has been throughout the 20th century. The institutional process of modern societies that has most valued and nurtured intelligence apparently has the unintended consequence of decreasing genotypic intelligence. Chapters 10 and 11 make a case for

socioeconomic status that is similar to that of education.

Chapters 12 and 13 make what I believe to be the more original contributions of the book. Herrnstein and Murray, in their book, *The Bell Curve*, raised what they called the issue of middle class values, a concept that they rightly claim is held in contempt by many academics. Lynn expands this idea and clearly shows that socioeconomic differences in conscientiousness underlie the idea of middle-class values. He then proceeds in chapter 13 to argue for a genetic basis for socioeconomic status differences in conscientiousness and in Chapter 14 argues that there is dysgenic fertility for conscientiousness. The data base for these latter chapters is much thinner than for earlier chapters and consequently the arguments are not nearly as convincing. They are very provocative and should generate considerable controversy and research.

Chapter 15 makes the case for dysgenic fertility in economically developing nations and Chapter 16 consists of a concise set of counterarguments, rejoinders, and conclusions. Unlike Herrnstein and Murray, Lynn does not address policy issues in this book, but he promises to do so in a future volume.

Are these problems worth worrying about? In my pessimistic moments I agree with Neel's unthinkable scenario, "that humans have evolved into societies with so many strong, conflicting interests that the capacity or resolve to formulate/implement the necessary long-range planning on a worldwide basis no longer exists . . . the population of the world will crash in various unpleasant ways. A measure of the gene pool will survive, but humankind will have squandered much of the genetic legacy from the past five million years of evolution" (p. 397). In my optimistic moments I am inspired by the vision of scholars like E. O. Wilson who argue survival is possible and lay out a plan, sketchy as it is, contrary to a great deal of thoughtless rhetoric, a noble pursuit. Lynn is a first-class scholar who has thought long and hard about these issues. It will be interesting to see what his vision looks like.

LITERATURE CITED

- Neel JV. 1994. *Physician to the gene pool: genetic lessons and other stories*. New York: John Wiley & Sons, Inc.
 Wilson EO. 1998. *Consilience: the unity of knowledge*. New York: Knopf.

THOMAS J. BOUCHARD, JR.
*Department of Psychology and
 Institute of Human Genetics
 University of Minnesota
 Minneapolis, Minnesota*

If a Chimpanzee Could Talk and Other Reflections on Language Acquisition. By Jerry H. Gill. ix + 163 pp. Tucson, AZ: University of Arizona Press, 1997. \$17.95 (paper).

Gill's *If a Chimpanzee Could Talk* is a refreshing look at language and language development. The typical book that deals with this topic usually displays a studied ignorance of the ape language research. Gill is one of the first authors who seems to have spent some time in the library and to have actually read some of the original research on ape language. This is contrasted with more popular opinion pieces passing themselves off as scholarly works by Steven Pinker and others. If you want a view of language that leaves the mysticism of René Descartes behind and moves into the world of Charles Darwin and embraces the social and biological components of language development then you must read Gill.

Gill's title misled me because I was familiar with the quote from Ludwig Wittgenstein that states: "If a lion could talk, we could not understand him." I was expecting another studied ignorance approach like Pinker's, puffing up human arrogance in yet another attempt to separate our species from its biological kindred. But instead Gill notes that Wittgenstein's remark points out that linguistic meaning is ". . . woven into the very fabric . . ." of our way of being human, which is embodied in our social behavior. His surprising answer to the question posed in his title comes at the end of Chapter One: ". . . chimpanzees do speak and we do understand them because, at least to a significant extent, we share a common 'form of life,' grounded as it is in gestural, reciprocal, and task-oriented embodiment" (p. 26).

Gill then takes us on a fascinating scholarly *tour de force* of relevant literature which disputes the arrogant Cartesian view of language. He begins with the studies on feral children and other special cases such as "Genie" who was isolated in an attic and twins who developed idioglossia. Gill uses these studies to argue that the business of

acquiring language is “not an all-or-nothing proposition” but is a matter of degree.

Next Gill uses Helen Keller to dispose of both B.F. Skinner’s and Noam Chomsky’s theories of language. Skinner’s theory fails to account for how Keller moved beyond imitation and began to use language in her interactions with Annie Sullivan. Likewise, Chomsky’s theory fails because it separates Keller from the embodied behavior of language. Gill contrasts this with the “over-arching conclusion” of his book, namely that “. . . both linguistic meaning and human cognition . . . are grounded in and achieved by means of the body. In short, to mean and to know are inseparable from embodied human activity” (p. 50). The implication is that Chomsky’s theory only explains disembodied languages, or the kind of language that appears on this page, taken out of the active exchange and interaction of two bodies, where language originates and is primarily used.

In the rest of the book Gill weaves findings with autistic children, child language acquisition, cross-cultural studies and finally Benjamin Whorf into a coherent argument in support of the body. He points out the importance of the parents’ role of establishing a relationship with the autistic child by imitating him or her, thus creating the reciprocal interaction so necessary for language. From autism Gill next looks at language acquisition studies that have traditionally ignored and systematically excluded the role of bodily and social activity. Instead such studies have opted for “mental mechanisms,” “inferences,” and “hypotheses” in the study of children. With regard to cross-cultural studies he points out that our traditional and arrogant approach seldom takes the speakers on their own terms. For example, the European immigrants to America thought that the Native American languages were primitive and that the Native American adult had only the cognitive capacities of the white European child. I have heard this same uninformed statement made about chimpanzees claiming that they have the mentality of a three-year old child. (I wonder how long such a three-year-old human child would last in Kibale Forest or Gombe Stream?) Finally, he addresses Whorf’s notion that our reality is linguistically constituted. Once more this points to the fact that language is primarily social in nature, and that indeed the rela-

tionship between our reality and our language is an interactive one.

Gill does a wonderful job of covering so much territory while at the same time weaving philosophers and linguists such as Wittgenstein, Immanuel Kant, J.L. Austin, Maurice Merleau-Ponty, Michael Polanyi, Owen Barfield and Nelson Goodman into the book. As mentioned, he also covers those who chose either to ignore the body or to ignore the active social nature of animals. He spends the last four pages pointing out major flaws in the work of one of Chomsky’s epigones, Steven Pinker.

The one minor point of disagreement, from a Darwinian point of view, is Gill’s use of the notion of a “threshold” for language. The word “threshold” implies an all-or-none boundary. I personally find a process model more appealing, especially in the Piagetian sense where the paradoxes of “stage and process” are integrated into one.

ROGER FOUTS

Chimpanzee and Human Communication
Institute

Central Washington University
Ellensburg, Washington

Captain of Death: The Story of Tuberculosis.

By Thomas M. Daniel. 296 pp. Rochester, NY: University of Rochester Press. 1997. \$49.95 (cloth).

In 1890, John Bunyan described the final days of his protagonist in *The Life and Death of Mr. Badman*, who is afflicted with a myriad of diseases. He rhetorically asks what caused the death of this man who was battling a number of life-threatening ailments. Bunyan’s literary autopsy perceptively proclaims that consumption (tuberculosis) was “. . . the captain of all these men of death . . .” (who) “. . . brought him down to the grave.” The epithet “Captain of Death” is well deserved for the vector in the demise of Mr. Badman and millions of others who have died from tuberculosis. Tuberculosis (TB) infects a third of the world’s population; each year 8 million people are added to this list (and the rate is increasing), and 3 million people die annually from the disease. Thomas M. Daniel, a physician who has been at the forefront of the effort to eradicate TB, presents a readable account of the history of the disease for the general public.

Daniel details the history of TB from pre-history (it is found in the New and Old Worlds), historical, and in contemporary settings. His description of the early Egyptian, Greek, Roman, and Medieval European physicians is very informative. He provides a brief portrayal of the physician's struggle to understand and deal with tuberculosis. A common notion in these earlier accounts suggests that the "asthenic" phenotype was a predisposition to the disease. Being underweight remains a risk factor. In the 1800s, this early perception influenced the view that tuberculosis was a genetic disease or a part of the individual's physiology.

The author provides a nice summary of Thomas McKeown's analysis of the decline in tuberculosis in Wales in the late 1800s prior to the advent of drugs that were effective against the disease. With the development of therapeutics, tuberculosis continued to decline and in 1987 it was predicted that by 2010 its prevalence in the United States would be one case per million. This optimistic scenario was abruptly shattered in 1993 when there was not only an increase in the tuberculosis, but in a multidrug resistant form (MDR) of the disease. Daniel details the factors that led to this modern dilemma. The outbreak of MDR TB is related to the misuse of antibiotics, ineffective treatment of the disease (only 11% of patients discharged from hospitals in New York City's Harlem area complete the total course of drug treatment), the complication of TB in individuals with AIDS, and the increase of the disease among immigrants. Frank Ryan's *The Forgotten Plague: How the Battle Against TB Was Won and Lost* (1992, Little, Brown) provides a more lively and more thorough account of how TB rose again.

From a historical perspective, Daniel's description of the modern accounts of the biomedical response to the disease is the most compelling part of the story. Even after the paradigmatic shift with Robert Koch's discovery of the TB bacillus, Daniel describes difficulties with developing and testing a vaccine (BCG), the success of isoniazid and streptomycin in effectively treating the disease. The fact that BCG is proven not to be an effective vaccine is one of the most interesting aspects of the story. Yet, Daniel ends his book with implementation of a vaccine program (known to be ineffective) in Haiti

at a time that it lacked a public health infrastructure. Yet in a time of crisis, Haiti was able to establish a five-year record of 93% of TB patients completing their drug treatment.

Daniel uses a literary device of interspersing historical accounts of the illness as it affects historic figures. Famous victims of tuberculosis such as Frederic Chopin, John Keats, Robert Louis Stevenson, and Eleanor Roosevelt are alternated with the heroes of the war against tuberculosis such as Koch, Albert L.C. Calmette, and Camille Guérin (the developers of the BCG vaccine) and Edward Livingston Trudeau (pioneer of the sanatorium movement). Although I found these accounts somewhat tedious, they are used to illustrate how tuberculosis was treated and frequently misunderstood. When Chopin was diagnosed with TB at a time when the disease was thought to be a genetic disease, he was shunned in coastal Spain because the locals thought it was infectious. The description of treatments provides a historical account of the evolution of treatment from the heliotherapy, sanatorium movement, chemotherapy, and antibiotic treatment. Daniel uses Keats and Stevenson as case studies to discuss differential impact of disease on individuals and the concept of acquired and inherited immunity. The biographical account of these figures in history is in reality a biography of the disease. Furthermore, it demonstrates that TB was the great equalizer, that the rich and famous were also at risk. René and Jean Dubos' *The White Plague: Tuberculosis, Man and Society* (1952, Little, Brown) remains a more engaging treatment of the role that tuberculosis plays in the social and literary history of Europe and America. *The White Plague* shows how TB became entwined in all aspects of our lives through novels, opera, and film.

Daniel is very effective in using advances in TB research to provide his reader with an understanding of the basics of immunology. He provides a primer on how the body responds to infectious agents in a painless manner that the reader will appreciate. Daniel presents many facts that will surprise the reader. I learned that spitting, as unappealing as it is, does not spread the disease; coughing is the real culprit.

The book could have been more carefully edited. There are frequent retellings of key elements of the story. On at least three oc-

casions, the story of Koch's announcement of the discovery of the TB bacillus is retold. On pages 84 and 85, there are the same statements about the awarding of the first Nobel Prize. An unreadable graph is presented on page 154. However, the reader will find the glossary and endnote annotation an effective tool for further research.

Daniel deserves praise for his attempt to present a readable account of TB's history and its current place in the pantheon of emerging disease. The reemergence of TB represents a global problem that should be a concern for everyone. Although there are a few instances in which he moves beyond the grasp of the general reader, Daniel usually hits the target on the mark.

GEORGE ARMELAGOS
Department of Anthropology
Emory University
Atlanta, Georgia

Health and Disease in the Caribbean, Journal of Caribbean Studies Special Issue 12(1). Edited by R.A. Halberstein. 157 pp. Lexington, KY: Association of Caribbean Studies (University of Kentucky). 1997. \$19.95 (paper).

This collection includes a brief introduction, five review essays on broad topics, and three "case studies" of more focused issues. This special issue provides a helpful source of information and insight on a well-chosen set of topics.

Halberstein's introductory note offers an historical perspective on studies of health and disease in the Caribbean. The earliest publications were written for the benefit of the British colonialists, offering information about diseases that might be encountered and the general state of health of the people living in the area. Recent research, much of it funded by international organizations and often survey-based, has focused on health problems of particular groups, such as hypertension. Much of this recent research, as the essays in the volume demonstrate, build on the fact that the Caribbean region offers an important area for study of African and African-Caribbean diaspora populations and how their health and disease patterns reflect long-standing genetic bases, or are the result of recent cultural/environmental adaptations, or both.

The five overview chapters begin with the

consideration by Fleming and colleagues of the role of the environment in affecting health throughout the region. Specific topics addressed are water and waste, marine environments, soil quality, air pollution, environmental pests, occupational health and climate change. The authors do a reasonable job of addressing each of these huge issues within limited space; each topic receives a page or two. Most of the discussion is highly localized with scant attention to how global forces such as international business and tourism affect the quality of the environment. In the same vein, the authors conclude with a comment that education of the Caribbean people is "paramount" to preserving the environment.

De Santis offers a richly documented and insightful review of the history and potential resurgence of infectious/contagious diseases in the region. Age and gender differences are noted, with infants, the aged, and males being categories more at risk than others. Detailed attention is given to intestinal diseases, which are the leading cause of death in children, to vector-borne diseases (malaria and dengue fever), and to STDs and HIV/AIDS. A sensible and straight-hitting section on "future control and elimination" of infectious diseases offers a concise listing of the multiple and interrelated causes of their resurgence, recognition of the research, and policy neglect of primary health care, and mention of the negative effects of structural adjustment on the region's ability to maintain the systems that were in place earlier.

Mental health receives coverage in Hickling's chapter. Here, the comparative potential of the Caribbean region becomes quickly manifest with the author's statement about the rising numbers of Caribbean blacks in mental hospitals and prisons in England. Although brief, this essay brings us toward an extremely important issue: the ethnocentrism and racism of Western psychiatry and its continuing power to "psychologize" economic and political powerlessness. Schizophrenia is a major case in point. In the Caribbean, the African population has low rates compared to African Caribbeans and whites in England. The likelihood of "misdiagnosis" in England arises along the lines of Michel Foucault's view of psychiatry being a social control tool of the powerful.

Sobo's chapter addresses fertility and childbearing issues, including attitudes to-

ward and use of contraception and abortion, and child health, vast and important issues, again, that can only be touched on in such a brief essay. Given data constraints as well as space limitations, the author chooses to focus on the English-speaking Caribbean, especially Jamaica where research (including that of Sobo herself) on these topics is comparatively rich. A key contribution is the discussion of Jamaican women's understandings of the role of bodily fluids, especially blood, in their reproductive health and how this model affects their use or rejection of biomedical interventions.

Ethnomedical healing is the subject of du Toit's chapter. He refers to the Caribbean region as a "complex ethnological reservoir" (p. 95) of local healing systems largely descended from African systems brought in through slavery along with other cultural influences, depending on the context (e.g., immigrants from China and India). Three topics are addressed: ethnopharmacology, beliefs about supernatural disease causation and curing, and culture-specific illnesses such as *nervios*. In conclusion, the rapid changes brought by the introduction of western biomedicine, prompt the author to argue for the importance of what can be termed "salvage" ethnography on the "folk" knowledge of curing herbs and other substances, traditions of ritual healing and models of disease causation.

Next, three essays consider particular issues: high blood pressure, sickle-cell disease, and the genetic resistance to malaria. Stevenson's discussion of high blood pressure relies on studies conducted in Jamaica, the Bahamas, St. Vincent, and St. Kitts. Underlying issues of interest are the long-standing lower rate of high blood pressure among African populations (in Africa and the Caribbean) compared to European whites, and the varying roles of genetics and environment/culture in affecting blood pressure levels. Halberstein's essay considers sickle cell disease and other hemoglobin abnormalities in the region, which he asserts constitute a major public health problem, especially in small and historically isolated populations such as St. Lucia, the Bahamas, Guadeloupe, Martinique and Dominica. He supports the undertaking of a complete epidemiological mapping of the region and a sickle-cell educational campaign to raise people's awareness as Cuba has done. Crawford examines the malaria resistance of the

Garifuna (African Caribs) of St. Vincent as a case of "evolutionary success" (p. 147) and provides a review of their protective genetic patterns.

This collection establishes a useful benchmark on a wide range of important topics. The editor and authors are to be applauded for their careful work. The benchmark, however, takes us barely into the early 1990s; most of the studies reviewed are from the 1970s through the mid-1980s. Research results from the late 1980s through the present are yet to be plumbed for their insights on pressing issues such as the effects of structural adjustment, increased rates of tourism, changing patterns of STDs and HIV/AIDS, changing patterns of fertility and migration, and environmental degradation. Perhaps a project such as this volume should be undertaken every 10 years as a regular retrospective and prospective.

BARBARA DIANE MILLER
Department of Anthropology
George Washington University
Washington, D.C.

Genome Mapping: A Practical Approach. Edited by Paul H. Dear. xxv + 371 pp. New York: IRL Press. 1997. \$110.00 (cloth), \$55.00 (paper).

As correctly pointed out by the editor of the book, the explosive growth in the area of genomic analysis observed in the last few years is unparalleled for any other branches of science. This explosion of knowledge has happened not only through innovations in new methods, but has also occurred in applications of genomic information for solving problems relevant to basic science, medicine, and the society as a whole (such as forensics, parentage analysis and determination of relatedness). This diverse growth of genomic research has made it difficult for any practitioner to get a bird's eye view of the state of this science from a single source. By bringing in an up-to-date account of the salient features of the major practical methods of genome mapping in a single volume, the editor has truly filled this gap and should be congratulated for his effort.

By and large, the effort has been successful. In 12 chapters, this volume described

the various approaches to mapping, along with providing references for the relevant computational methods. In addition, the three appendices also list bioinformational resources including website addresses and major suppliers of reagents and chemicals required for such analyses. Several of the approaches have been described in terms of planning the study design, experimental protocols as well as data analysis. Therefore, this volume should serve as a valuable compact reference for students and researchers.

The volume begins with methods for linkage mapping in humans (Chapter 1 by Curran) and in plants and animals (Chapter 2 by Miller) and then continues with techniques such as Quantitative Trait Loci (QTL; Chapter 3 by Haley and Andersson) mapping, use of radiation hybrids (Chapter 4 by Stewart and Cox), HAPPY mapping (Chapter 5 by the editor), somatic cell hybrids (Chapter 6 by Naylor), flow-sorted chromosomes (Chapter 7 by Ross and Langford), microdissection of chromosomes (Chapter 8 by Claussen et al.), fluorescence in situ hybridization (FISH, Chapter 9 by Leversha), use of fingerprinting for assembly of contigs (Chapter 10 by Gregory et al.), chromosome walking (Chapter 11 by Ragoussis and Olavesen), and long-range restriction mapping (Chapter 12 by Bautsch et al.). The presentations in these chapters are not only based on up-to-date materials, their uniform style is certainly a rare commendable and distinctive characteristic of this multiauthored volume. The editor certainly deserves credit for this feat as well.

Although it is difficult to cover all aspects of a diverse field, one limitation of this volume is the omission of disequilibrium mapping (the analytical approach of positional mapping) and the affected pedigree member method of which the affected sibpair method has become a successful technique for mapping complex diseases particularly in humans. In addition, the authors are sometimes somewhat uncritical in their presentation of review materials. For example, in Chapter 1, Curran credited Botstein et al. (1980) for the concept of "polymorphism information content" (PIC). However, Botstein et al. (1980) credit Chakraborty et al. (1979) for first proposing the concept. Also, the formula presented for PIC (equation [1] of p. 16) has a much simpler form expressed as,

$$\text{PIC} = 1 - a_2 - a_2^2 + a_4,$$

where a_2 and a_4 are, respectively, the sum of squares and sum of the 4th power of allele frequencies at the locus. Expressed in this fashion, the PIC index can be calculated without the complex double summation term of the expression (equation [1] of p. 16) given in this book. Likewise, in terms of experimental protocols, the readers should be aware that there are some simple techniques (e.g., Deka et al., 1995) that have a great potential for eliminating shadow bands (i.e., stuttering) of short tandem repeat loci, which have been called a problematic feature of typing the tandem repeat loci (see p. 6).

As noted, the three appendices provide a ready reference to many of the valuable resources for genome mapping research and information. However, here as well the authors should have been somewhat critical in their appraisal. Whereas the public domain databases from genome research are extremely helpful, their utility is truly dependent on the expertise of the users. Quality control for these data bases varies and is sometimes disappointing. For example, there are occasional discordances between map locations and distances of the same markers between databases, and in particular the documentation of allele frequencies of microsatellite loci is rather discouraging, although such information should be available and accurate for each of the over 11,000 markers mapped on the human genome.

In spite of these minor drawbacks, this volume is highly recommended as an up-to-date sourcebook of the major methods and techniques of genome mapping for human as well as nonhuman organisms. Students as well as experienced researchers, including those interested in human biology, should find this volume a valuable reference.

LITERATURE CITED

- Botstein P, White ROL, Skolnick M, Davis RW. 1980. Construction of a genetic linkage map in man using restriction fragment length polymorphisms. *Am J Hum Genet* 32:314-331.
- Chakraborty R, Fuerst PA, Ferrell RE. 1979. Potential information in family studies of linkage. In: Sing CF, Skolnick M, editors. *Genetic analysis of common diseases: applications to predictive factors in coronary disease*. New York: Alan R. Liss. p 297-303.
- Deka R, Jin L, Shriver MD, Yu L, DeCross S, Huddiesser H, Bunker CH, Ferrell RE, Chakraborty R. 1995. Population genetics of dinucleotide ($dG-dA$)_n

$(dG-dT)_n$ polymorphisms in world populations. *Am J Hum Genet* 56:461–474.

RANAJIT CHAKRABORTY
Human Genetics Center
University of Texas School of Public Health
Houston, Texas

Organizing Scientific Meetings. By August Epple. xiv + 184 pp. Cambridge: Cambridge University Press. 1997. \$44.95 (cloth), \$14.95 (paper).

This slim volume containing 20 chapters and 18 appendices is essential reading for anyone involved in the organization of a scientific meeting. I had just spent the last 2 years as program chair of the American Association of Physical Anthropologists when I first picked up the book for review. In the course of reading it, I found myself reflecting on my own experiences in meeting organization. These experiences were revisited time and again in this book in numerous and substantive ways.

The book discusses the full range of meeting types and formats, but its primary strength is the author's overview of the key elements of gatherings involving several hundred to a thousand or so participants. From the beginning, Epple makes clear that the organization of a scientific meeting is not for the faint hearted. The organizer must have two essential attributes. First, and most obvious, is the necessity of having strong *organizational skills*. Second, and perhaps not as obvious, the organizer requires a very *thick skin*; it is impossible to please everyone, and the organizer has to be able to handle criticism—no matter how bizarre or outrageous. The organizer should also have significant experience before taking the job. This experience can be gained in various ways, such as by serving on a program committee, by organizing a special session or symposium for a major meeting, or by organizing a regional conference. Personally, I found that my experience serving on a program committee for several years and organizing a number of symposia provided invaluable experience, thus better preparing me for my responsibility as a program chair.

The primary function of the scientific meeting is to present new research results in an interesting and informative manner.

Presentation formats vary, but they usually take the form of contributed (oral) papers and posters. Epple favors posters over contributed papers, arguing that posters are far superior for presentation of scientific findings. With the use of minimal text and good illustrative materials, the poster can be an enormously powerful tool for presenting scientific results. Contributed papers, in contrast, often end up as sleepers, especially if the slides are poorly prepared (e.g., contain too many lines) or the paper is poorly rehearsed prior to the meeting. I disagree with Epple's conclusion that these short communications are not especially useful. Well-conceived oral presentations allow numerous people to be informed about research results in a brief sitting; whereas, with a poster, only a relatively few number of people can view research results at any one time. However, it is often difficult to ask questions following a contributed paper, usually because time has run out for the speaker; posters are free-standing for several hours or more allowing the viewer to engage in discussion with the presenter. In the bigger picture, the advantages and disadvantages of both formats provide a balance of presentation, and a mix of contributed papers and posters is the basis for a good meeting.

We have all experienced the frustration of attending a session dealing with a popular topic in an all-too-small meeting room. The meeting organizer has the important responsibility of working closely with the local arrangements committee and the hotel or convention center in seeing to it that room size appropriate to a specific topic is identified.

The book provides some very useful checklists for every kind of meeting detail. For example, with regard to poster sessions, key questions that have to be asked well in advance of the meeting include: Are there sufficient numbers of poster boards of adequate quality? Are the poster boards large enough and the room for presentation large and well lighted? Epple also admonishes the meeting organizer to provide presenters with clear instructions on how to construct a poster, regarding especially use of large print and inclusion of simple illustrations that address key points. It is too often the case that a presenter simply tacks up a manuscript with a few loosely associated figures and calls it a poster.

The key to organizing a successful meeting lies in the willingness of the meeting organizer to devote an enormous amount of time and energy to details. This can only be accomplished by having from the outset a strong sense of commitment to the scientific society and the desire to see to it that the meeting and local arrangements are well planned. Without this commitment, the meeting is doomed even before it takes place. For many, the annual meeting is the sum and substance of their society (along with the journal). The organizer surely owes the meeting attendees an environment that engenders presentation of research results.

The potential meeting organizer reading this book should be forewarned that even with every contingency planned well in advance, events will occur that are completely unanticipated. My favorite example is a blunder that occurred during the handling of the publication of the meeting schedule and abstracts in my second year as program chair. To my horror, the abstracts, normally alphabetized by first author, had been de-alphabetized while in the hands of the program publisher. The publisher was apologetic and partially rectified the situation by producing an author-abstract index. The meeting attendees were polite and understanding about the incident, but the record remains as a permanent reminder of one important detail that can go awry.

The tangible rewards for the efforts of the

meeting organizer are few. For the typical program chair who is likely a member of a university faculty, meeting organization takes away time from an already demanding schedule, involving teaching, grant proposal preparation, writing, and so forth. Unlike these other activities, meeting organizing leads to neither professional advancement nor special recognition. Successful meeting organization offers a strong sense of personal accomplishment and, in particular, the satisfaction that she or he facilitated scientific advancement by helping to provide an atmosphere conducive to the spread of new ideas, the discussion of new findings, and the increase in productivity of the discipline represented.

In summary, I fully agree with the statement in the précis of the book that "If you are organizing a scientific meeting this is your indispensable guide" and should also be required reading for anyone who regularly contributes to meetings, if for no other reason than to be made aware of the incredible amount of effort involved in and specific details of meeting organization. Epple is to be commended for sharing his valuable experience.

CLARK SPENCER LARSEN
Department of Anthropology
University of North Carolina
Chapel Hill, North Carolina