

final chapter, "Myth and symbol," places the Egede colonization in the perspective of Danish and Greenlandic political ideologies. It is followed by appendixes on animal bone identifications, trace elements in glass artifacts, the dating of clay pipes, and techniques of site restoration.

The monograph is balanced and tightly structured with the exception of the final chapter, where the authors move from a descriptive, scientific mode to a social and political one. Here they present a structural analysis of forces at work in modern Greenland society. A moderate position is represented by description of the bicultural inauguration of the annual Egede festival at the Hope Colony site. The more radical view is seen through an incident in which the statue of Hans Egede in Nuk is desecrated by a young Greenlander whose motivation is presented through anonymous accounts in the newspapers. While the changing views of the colonial era that was begun by Egede are important, particularly at the conjunction of the anniversary and Home Rule transition, presentation of these issues in place of a concluding synthesis of archeological and historical findings is out of character with the approach espoused in the monograph's introduction.

This ambivalence toward descriptive, historical, and anthropological treatment is evident also in the body of the report. Though the authors diagram the spatial distribution of some items (especially pipes, ceramics, nails, and bones) and demonstrate that certain artifact patterns within the main house differ between living quarters, they do not discuss what these patterns might indicate regarding different activity areas or socioeconomic classes present in the colony's population. Descriptions of Eskimo artifacts and raw materials are scattered through the text, but the authors do not reflect on what is or is not borrowed from the Eskimo culture. In Jeppe Møhl's excellent faunal analysis one reads, in the colonists' own words, about the Europeans' failure to hunt and fish effectively and their clumsy attempts to copy Eskimo subsistence techniques. Their failure to develop a successful local subsistence economy or an economic symbiosis with the local Eskimo community resulted in near-complete reliance on European-based support, even more than was the case in the Norse colonization effort. These historical statements, the faunal analysis, and examination of Eskimo artifacts found in the Egede house would have been material for an excellent concluding chapter that would have fulfilled

the promise of an anthropological work by providing a unified account of the outpost's economic base and its adaptation to local ecological and cultural environments.

The data reported also have potential for comparative studies, given that the project takes place in a fiord system previously inhabited by Eskimos for nearly 4000 years and for several centuries by Norse. Specific comparisons can also be drawn with eastern Canada. West Greenland and the Baffin-Labrador area have the same Eskimo prehistory, have similar contact histories involving whalers, traders, and Moravian missionaries, and reflect similar patterns of geographic and resource diversity. Finally, the volume points the way toward more anthropologically oriented research on culture contact situations. When the Kangek data are published and related to the Hope Colony and historic records, the results will provide a baseline study for a badly neglected field of investigation.

The Hope Colony volume is a fine contribution toward these ends, beautifully produced and containing few errors. The style of presentation, a combination of line drawings (done by Gulløv) and photographs, accompanied by bibliographic references drawn from both sides of the Atlantic, makes it a fine reference work. We must be especially grateful that despite its European subject matter the Hope Colony volume has been published in English.

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Primate Socioecology

Malayan Forest Primates. Ten Years' Study in Tropical Rain Forest. DAVID J. CHIVERS, Ed. Plenum, New York, 1980. xxiv, 364 pp., illus. \$42.50.

The Malay Peninsula supports a forest community notable for its age and species diversity, and there are major problems in evolutionary biology and ecology that will have incomplete solutions until observations of this tropical region have been taken into account. As this rich forest falls to the machines of human progress and expansion at a frightening rate, opportunities for research on the natural biology of the region diminish accordingly.

Chivers has been a prime mover of a group of students and colleagues who

have worked at several Malayan sites since 1970. This volume collects contributions from most of the members of that group. Primates have been the focus of the work, but potential readers should be aware that the authors have produced a useful chapter on the structure, species diversity, and phenology of the forest itself. Another chapter, by Payne, describes characteristics of birds and mammals (primarily squirrels) that share resources with the primates. An appendix cross-tabulates tree species, plant parts, and diets of primates, squirrels, and some birds at one site (Kuala Lompat). Although the tabulation is based on a mixed bag of systematic and anecdotal observations of species studied in variable degrees of intensity, and although the results are primarily qualitative, this appendix represents a pioneering attempt to describe dietary patterns in a reasonably large segment of a tropical forest community.

Primate species described in depth are the gibbons (Hylobatidae: *Hylobates syndactylus*, *H. lar*, and *H. agilis*), in a chapter by Gittins and Raemakers; the leaf-eating monkeys (Colobinae: *Presbytis melalophos* and *P. obscura*), in a chapter by Curtin; and the crab-eating macaques (Cercopithecinae: *Macaca fascicularis*), in a chapter by Aldrich-Blake. These three chapters review characteristics of social organization, ranging, and feeding, with some variation in quality and depth of observation. The coexistence of closely related species presents interesting problems for analysis, and the chapters on gibbons and on leaf monkeys take note of such problems. Fleagle's chapter on comparative locomotion clearly demonstrates differentiation between sympatric gibbon species and between sympatric leaf-monkey species, although his account of locomotion of the crab-eating macaque and its congener the pig-tailed macaque (*M. nemestrina*, omitted from the rest of the text for the most part) is purely descriptive, since he has not carried out a quantitative study of these two species. The comparisons among species often suffer from being based on information collected at different times by different observers. This deficiency is partially offset by MacKinnon and MacKinnon's chapter on a short (six months) but synchronous study of five of the six primate species at Kuala Lompat.

The title of the volume raises the expectation of analysis of long-term data on the community of primates. Though one species, *H. syndactylus*, has been observed more or less continuously since 1970, most of the studies reported

were of short duration within the ten-year period, supplemented by incidental observations made by other observers during sojourns at various study sites. Chivers and Raemakers make a strong effort to piece together the spotty information into a view of long-term changes in environmental variables and in social and ecological patterns of the primates. The resulting chapter wanders among topics and provides overly detailed accounts of the lives of a few groups of gibbons. Although the latter accounts will have occasional value to the specialist, I believe most readers will find them tedious.

Some readers may be troubled by the authors' free and uncritical use of theory, hypothesis, and unrelated work in post hoc explanations of the patterns discerned in their studies. The explanations would better have been presented as hypotheses for testing than as explanations. Given that many of the hypotheses adduced could have been proposed ten years ago, it is possible to fault much of the enterprise for not proceeding within the framework of hypothesis testing, or at least with some specific problem orientation. The primary method of the contributors has been dawn-to-dusk follows of primate groups. The effort required to maintain a rigorous schedule of such work in a rain forest is prodigious, but greater progress might have resulted from adoption of sampling regimes incorporating measures of important environmental variables. Since 1975, this group has maintained systematic observation of forest phenology in ten sample plots amounting to 3.75 hectares of forest at Kuala Lompat. These valuable observations are presented in a chapter on the forest, but explanations of social patterns of the primates given, for example, in the general chapter on socioecology depend on postulated relations of animal behavior to characteristics of food sources—trees—that have gone unmeasured in the past ten years. Chivers and Raemakers suggest that differences between monogamous gibbons and polygynous monkeys depend on dietary specialization and size of food plants (pp. 295–296), and we are told that “less selective feeding . . . increases the number of females and young supported by the area defended by a male, favouring polygyny” (p. 296). This may be true, but no quantitative measures of food trees or food abundance are provided.

Chivers' volume should be viewed as a progress report. It is also a monument to his persistence and the dedication of other contributors to tedious work in a difficult environment over many years.

No doubt the attempt to put the work together with ten years' perspective will generate closer attention to theoretical underpinnings and experimental design. I applaud Chivers and his associates for providing an interim report that will, despite its weaknesses, be useful to biologists concerned with this important tropical region.

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