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Anthro Notes

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POLITICS AND PROBLEMS OF GORILLA AND CHIMP CONSERVATION IN AFRICA

Of all the world's endangered species, gorillas and chimpanzees possibly receive the most sympathy, and the widest public support for their conservation. In large part, public empathy with these animals stems from the long-term efforts of Jane Goodall, Dian Fossey, and other primatologists who have demonstrated the close kinship between these animals and ourselves and made us aware of the dangers these primates face in a developing Africa. While elephant conservation in Zimbabwe has resulted in large population increases in some areas, the number of apes has not increased despite greater local and worldwide conservation efforts throughout the 1980's. Why are there only 310 mountain gorillas left in the wild? Why is ape conservation so difficult?

Anthropologists are deeply involved in primate conservation efforts. As Vernon Reynolds notes in a recent issue of *Anthropology Today*, we are responsible for the survival of chimpanzees (and other apes) in the wild if only because "they have helped us. Simply by existing, chimpanzees speak to us of our evolution, of our past, a past our ancestors shared with theirs. Thousands of Ph.D. students owe their thinking to chimpanzees. Careers have been, and continue to be, built on chimpanzees....It is time we started to acknowledge the debt, to do something for them in return" (1990:3).

Ape Conservation and Medical Research

Ironically, one of the greatest obstacles to conservation efforts for great apes derives from the very same feature that has brought them within the anthropologist's orbit, namely, their close biological relationship to ourselves (they share 99% of our genes). This relationship ensures their susceptibility to many of the same disease organisms as humans. Not only does this susceptibility make apes harder to protect in the wild, but it makes them commercially valuable in the developed world as subjects for all kinds of experimentation. Geza Teleki, an anthropologist and Chairman of the Committee for Conservation and Care of Chimpanzees, told us that "even though it is illegal to capture and sell wild chimpanzees, the market demand for medical experimentation is so great that a dealer in a developed country can command an asking price of between $10,000 and $25,000 for a single chimpanzee. The African who caught the chimpanzee illegally might receive a payment of $30 to $50, equal to one to two month's wages, so that, even with shipping expenses, the profit margins are in the same league as those of the international trade in illegal drugs. How can African governments defend their endangered wildlife against this overwhelming economic incentive from the developed world?"

The conservation effort for the great apes is two-pronged: protect the remaining populations of wild apes from local encroachment, and at the same time attack the international trade in wild-caught animals. Teleki, who has worked closely for many years with Jane Goodall, is particularly involved in the attack on the international trade. One week he might be testifying in Europe against an illegal dealer caught with a shipment of wild chimpanzees. The next week he might be in Washington testifying before a congressional committee on the relatively small numbers of chimpanzees that remain in the wild and on the need for an international trade ban (Teleki in Heltne and Marquardt, 1989:312-353).

Teleki's work also involves talking with the medical establishment to help ensure that their great apes come from already-established captive breeding colonies and not from wild populations. DNA-"fingerprinting" of chimpanzees can demonstrate that particular animals come from a breeding colony and are not "illegal." The high price for chimpanzees also helps in his effort by ensuring that captive animals are housed as humanely as possible, since no one wants to lose a $10,000 item of research "equipment."

In the recent National Geographic Film on Jane Goodall, produced by Judy Dwan Hallet, we see how painful it is for those who have lived with chimpanzees in the wild to visit them in captivity. Yet both Teleki and Goodall believe, for the ultimate conservation of these animals, it is important to work <u>with</u> the medical establishment as much as possible, since medical research drives much of the deliberate poaching of wild chimpanzees.

Forest Conservation in Africa

Human population is expanding in most African countries at rates of between three and four percent per year, doubling the population every generation. The demands of an expanding population for food and fuel are resulting in widespread destruction of wild habitats, particularly those forested habitats that harbor the remaining ape populations. Furthermore, the need to generate hard currency reserves through the export of timber or cash crops has seriously depleted forest areas, thus reducing the land available for local subsistence.

Many African countries inherited from colonialism large tracts of undeveloped land set aside as game reserves. In several cases, notably in the Virunga National Park in Zaire, these tracts were not uninhabited when the reserve was created, but were home to indigenous peoples who were resettled outside their boundaries. When cash-poor African governments succeeded colonial ones, they found themselves in the difficult position of defending these reserves against the legitimate land requirements of their own people. In many cases, the people who run the central government of an African country and those who live in a distant rural area in close

proximity to wild gorillas or chimpanzees do not share the same language or culture. Decisions made in the capital may not take local needs and interests into account and may be difficult to enforce at a distance, across cultural and linguistic boundaries. In order for a conservation effort to succeed, both the national government and the local population must support it.

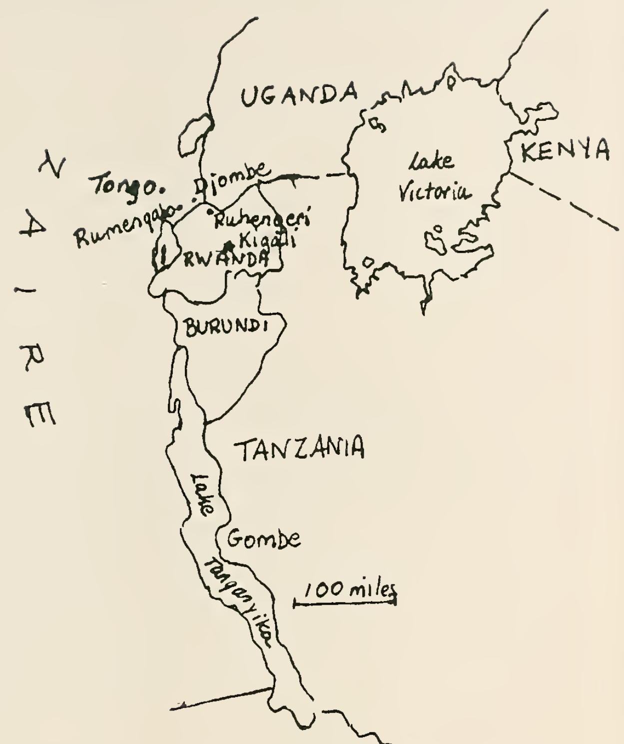
For many Africans the special land rights demanded for endangered species by western conservationists have sometimes been seen as a new form of imperialism, in which Africa will continue to supply the raw material for western needs, albeit spiritual in nature rather than material. The western search for self-renewal in a pristine wilderness, the quest for a deeper knowledge of the self in a confrontation with the primitive or animal "other" is not universally shared (see Haraway, 1989). How, then, can conserving apes benefit Africans and African countries directly?

Over the last decade most primatologists have come to accept that conservation efforts will succeed only if such efforts provide direct and visible economic benefits to both the local people and the national government. How can wild apes replace local food and fuel or hard currency earned from timber operations? The answer has been tourism. For some African countries (Zimbabwe, Botswana, Kenya, Tanzania), with large, easily accessible and relatively well-maintained savanna game reserves, tourism is the second or even the first source of foreign currency. In some cases, such as at Amboseli Park in Kenya, the cooperation of local people, in this case the Maasai, has been ensured, or at least made likely, through their direct participation in providing housing, food, and guides for foreign tourists. Can this model be applied to forest reserves and their elusive animals?

Gorillas: Tourism and Conservation

Rwanda

The most financially successful and well-known tourist experience in an African forest is the mountain gorilla project in the Parc National des Volcans, Rwanda. Last year about 6500 tourists climbed the steep slopes of the Virunga volcanoes in search of



a one-hour encounter with our largest relative. Each of the four habituated gorilla groups is visited by up to five tourists daily. Gorilla tourism is not for the tourist on a shoestring but is designed to extract the maximum foreign currency from each visitor. Local people may have cornered some jobs as guards and guides, but the tourist dollars appeared to be flowing primarily to the capital. First, the tourist pays $160 in entrance and gorilla visit fees directly to the park office. The base of the nearest gorilla visit site is at least two to three hours drive from the Kigali, the capital, in an expensive private taxi or rental car; inexpensive local busses drop you about ten miles from the mountain in the nearest town of Ruhengeri.

Since tours leave early in the morning to catch the gorillas during their most active period, most tourists also end up paying, in the requisite foreign currency, for at least two nights lodging in Rwanda. The total tab is usually about $400-$500 each; even the most determined French-speaking tourist in good physical shape is unlikely to get away for less than $300. If 6500 tourists spend at

least $500 each in Rwanda, the total foreign currency revenue generated by gorilla tourism is more than $3.2 million dollars. This represents a minimum of $10,000 per "wild" gorilla. Gorilla tourist dollars, moreover, are a perennial resource rather than a one-time windfall. Not surprisingly, the government of Rwanda has strongly supported the development of gorilla tourism, accompanied by anti-poaching and education measures.

The popularity of gorilla tourism is extraordinary given its physical demands. Visitors to the clouded forest of the Virungas cannot experience the landscape or its animals from the comfort of a zebra-striped safari van. Instead the trip is exhausting and often uncomfortable, and the contact with the forest and its inhabitants far more direct than the usual savanna bus ride, but perhaps, for that very reason, more rewarding for the nature pilgrim.

In 1985, Alison Brooks and Catherine Smith (wife of the co-author) visited the gorillas of Mt. Visoke. Although we had spent the previous two months excavating various levels of 100 foot cliffs, at an altitude of 3000 feet, we were quite unprepared for four or more hours of extreme physical exertion at 9000 ft. During the climb to the nests where our gorilla group had spent the previous night, we began to understand why gorillas have such strong arms. For the most part, we progressed by pulling ourselves upwards and forward over a tangled wet and slippery mass of tree roots, vines and stinging nettles. In about three hours of constant motion, our feet almost never touched the ground. Once we located the nests, distinguished by the piles of feces gorillas always deposit in their nests before moving on, Catherine Smith immediately slipped on the wet leaves and fell in. From the nests, the trail was much clearer, although still covered in stinging nettles and definitely not designed for hairless bipeds. About an hour later, we finally made contact with the gorilla group.

Mountain gorillas are ideal subjects for forest tourism, since they are very large, live in groups, spend most of their time on the ground, move slowly, and rarely travel more than a few miles per day. Their energy budget dictates that they spend most of the day lying around digesting their relatively low-quality diet of leaves and shoots. Many tourists have made arduous climbs of five or more hours only to watch gorillas sleep. We were lucky; ours were just finishing off their morning meal of stinging nettle tops.

Gorilla Conservation in Zaire

Zaire

In Zaire, a country 90 times the size of Rwanda, conservation efforts are strongly supported at the national level, but the local people charged with carrying out the government's edicts are much further removed, culturally, linguistically, and physically, from the government seat in Kinshasa 1500 km. west of the Virungas.

Four habituated gorilla groups at two sites in the Parc National des Virungas (Djombe and Rumangabo), which abuts Rwanda's Parc des Volcans, are visited by up to six tourists daily for one hour. At $150 apiece in park fees, plus substantial costs for transportation by a tour operator, gorilla tourists in Zaire provide a significant source of foreign income to the national government.

When we visited habituated groups in Zaire in 1986, 1988, and 1990, the park guards were increasingly proud of their conservation efforts as well as of their roles as brokers between gorillas and western tourists. Over the years, the gorillas became increasingly "habituated," rarely charging or fleeing from the daily scrutiny of strangers, while the tourists were taught how to behave like submissive gorillas, moving only slowly and quietly, hunched down and grunting. The EEC and Frankfurt Zoological Society provided incentives directly to local personnel, both in bonuses and in durable equipment (vehicles, two-way radios, on-site office buildings, etc.). In addition, the largest tour operator at Djombe was a local Zairois.

As in Rwanda, however, the rich volcanic soils immediately surrounding the small gorilla refuges in Zaire are farmed

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AAA TASK FORCE SUMMARY REPORT

The American Anthropological Association (AAA) Task Force on The Teaching of Anthropology was created in 1988 to encourage the teaching of anthropology in North American schools--from elementary school through the university. The Task Force was created in the belief that enhancing the role of anthropology in our education system will not only strengthen education but contribute substantially to the public awareness of anthropology and the creation of a more positive image of the profession.

The Task Force, co-chaired by Professors Jane White (University of Maryland/ Baltimore County) and Patricia J. Higgins (SUNY-Plattsburgh), has been divided into four working committees: Research, Guidelines for Teaching Anthropology, Curriculum Materials, and Outreach. The committee on Research recently submitted a report assessing the status of precollege anthropology and the place of anthropology in preservice teacher training. A copy of this report, written by Paul Erickson, with contributions from Patricia Rice, Paul Erickson, Sally Plouffe and Serena Nanda, is now available from Professor Erickson, Department of Anthropology, Saint Mary's University, Halifax, NS, B3H 3C3, Canada. A summary of the report is reprinted below.

INTERIM REPORT ON PRECOLLEGE ANTHROPOLOGY: A SUMMARY

The research for this Report on Precollege Anthropology was based on mail and telephone surveys of hundreds of education officials, schools, and teachers in every Canadian Province and American State. For example, a letter was sent to every teacher training college and university in Canada and to a selected sample of teacher training schools in every state as well as the District of Columbia, Puerto Rico, and Guam. Letters were sent to 252 schools, 47 in Canada and 205 in the United States. Seventy-five (30%) responded, 25 from Canada (53%), and 50 (24%) from the United States. Both groups were combined for data analysis. Teacher certification and teacher training were investigated as well as how, where, and why precollege anthropology is actually being taught. The report states that an estimated 43% of states who responded already require some kind of anthropology for teacher certification. Furthermore, thirty-eight percent (38%) of the education degree-granting schools require future teachers to be exposed to anthropology; 5% recommend anthropology; and 38% make anthropology available as an elective. The rest lack anthropology altogether.

Anthropology figures about equally in the training of both elementary and secondary teachers. Most of this anthropology is cultural anthropology, with archaeological, biological, and linguistic anthropology is rarely mentioned by our respondents. The prominence of anthropology in education schools depends less on schools' size and geographical location than on the presence of motivated faculty members. We were reminded that anthropology cannot be taught where there are no anthropologists on campus.

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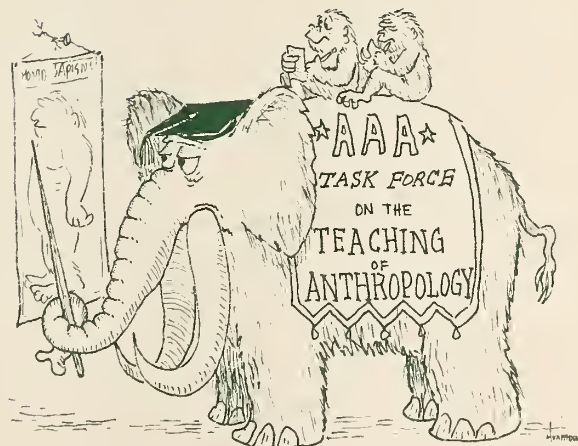

Fifty-six percent (56%) of the responding Provinces and states claim to allow anthropology as a local school or district option, while 16% claim to disallow it. The rest do not have relevant information or did not respond. Two states, Minnesota and New Jersey, come close to requiring anthropology for high school graduation.

Where anthropology is a local option, the percentage of schools in the states actually teaching anthropology is highly variable, ranging from 40% in Alaska to 3% in North Dakota. The percentage of students actually enrolled in anthropology courses is consistently very low, reaching a high of only 1% in Alaska and Connecticut. The caliber of precollege anthropology curricula varies extremely. No Province or state responding mandates a specific anthropology textbook, and many teachers are unhappy with the textbooks they are using.

In classrooms, anthropology appears at both the elementary and secondary levels. It is taught by name mainly at the secondary (high school) level, where it competes for resources with other "non-essential" subjects. In elementary schools, anthropology is disguised as social studies so that some teachers are teaching anthropology without knowing it!

In summary, a surprising amount of precollege anthropology is already "out there" in North American schools. Building on these existing strengths and networking with already-motivated teachers is preferable to foisting college goals and methods on precollege classrooms.

We are struck by the gap between the relatively large number of opportunities for precollege anthropology and the relatively small number of individuals taking advantage of them. At Brigham Young University, for example, 100-150 education students enroll in recommended Anthropology 101 each year, but only one student majors in anthropology education. This situation is part of the self-perpetuating cycle in which little precollege anthropology is taught because there are few teachers of anthropology, and there are few anthropology teachers because little precollege anthropology is offered.

Students and teachers will not be attracted to anthropology unless they know what anthropology is. Therefore, the fate of precollege anthropology is linked to college and university anthropology and to public awareness and approval of anthropology outside schools. Strengthening any one of these links will eventually strengthen them all. There is special strength in teaching anthropology to young people, who can benefit from it for the rest of their lives; or teaching anthropology to teachers, who can pass it on to students throughout the rest of their teaching careers.

Paul A. Erickson, Chair
Committee on Research
AAA Task Force on Teaching Anthropology

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ARCHAEOLOGY MAGAZINE

The January/February 1991 issue of *Archaeology* includes an excellent special section on Archaeology in the Classroom. It includes a feature article by K.C. Smith on the value of teaching archaeology and the increasing cooperation between archaeologists and educators and; a sampler of innovative archaeology programs for young people around the country; and a Resource Guide for Teachers listing newsletters and publications, curriculum materials, organizations to contact, and fieldwork opportunities. *Anthro.Notes* editors strongly recommend our readers obtain this useful issue by sending $4.50 to Archaeology, P.O. Box 50260, Boulder, CO 80321; (800) 289-0419.

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FREE LECTURE

"The Scale of the Universe in Space and Time" is a fascinating perspective on the human condition. Saturday, May 4, 9:30 a.m., at the Einstein Planetarium, National Air and Space Museum. Teachers are encouraged to attend.

TEACHER'S CORNER: CHURCH ETHNOGRAPHIES: A WEST TEXAS CASE STUDY

Religion often guides human behavior, regulates interactions between human beings and their environment, and even guides specific social ends. Because religion is a complex blend of behaviors, material items, beliefs, and people, studying churches can be an ideal setting for the study of the total integration of culture, a setting in which students can bring their own knowledge and background into play.

At the University of Texas of the Permian Basin, I assigned my undergraduate students to research projects focussing on individual churches encompassing a wide range of socio-economic and ethnic groups present in the region. In order to gain an idea of regular church practice, students attended an assigned church for at least three Sunday morning services and also interviewed the minister. It was essential that students first asked consent of the minister before attending services, and that each student made clear his or her role as a student observer rather than as a potential church member.

In order to introduce students to techniques of participant observation, I gave the class a basic framework of observations to make. This framework included:

1) the physical layout and material culture of the service;

2) the human dimension of the service, including the number and ethnic identity of people attending, the relative proportions of male and female participants, young and old, majority and minority groups, and the clustering of groups by age or sex; and

3) the service itself, including the kinds of music and musicians, the specialized personnel, time of day, and the style of audience participation. Finally, questions were offered for interviewing the minister, such as asking his or her reasons for becoming a minister and his or her education and training.

Students carefully recorded observations in a "field diary," gathering data from which they could fill out the questionnaire. Next students used their data as the basis for writing a church ethnography, a descriptive narrative essay of both the church and the community of which it was a part. Since the entire class was studying various churches within a single denomination (Baptist), I distributed all the ethnographies to the class to read and discuss. Were there differences among these churches? If not, why not? If there were differences, what were they? What factors accounted for these differences? Such questions enabled the students to incorporate knowledge acquired through participant observation as well as their own background

knowledge as members of the general society.

The project, focusing on churches, congregants, and small communities, contributed to student education in several ways. By assigning students to churches other than their own, they were introduced to different ethnic groups and social classes. Many students were simply unaware of minority communities beyond brief encounters. In the West Texas Baptist project, one female white student initially refused to attend services at the black church to which she had been assigned until she could persuade her boyfriend to accompany her. The classroom discussion that resulted did more to clarify the nature of stereotypes and ethnic and class distinctions in our society than all the reading the students had done. Similarly, I assigned a black student to attend a wealthy, white Baptist congregation. Her discussion of her feelings and her perception of the congregants' feelings was firmly in the tradition of some of the best of humanistic introspective anthropology.

The project also contributed to the students' understanding of how anthropologists actually work. Despite our best efforts, anthropology is all too often perceived as the study of exotics, "them," rather than "us". This project showed students that anthropology is indeed relevant to our own society and that certain problems pertain to fieldwork regardless of the particular society under study. Students had problems with "nothing to see" at first and "too much to record," as they became accustomed to the ways of "their" church and then had to decide what was important to observe. In so doing, they came to realize the role of their own perceptions and biases in "objective" observation. Students came to grips, albeit in a small way, with problems of culture shock. Even Baptist students found it difficult at first to understand why church members did certain rituals in different and therefore "wrong" ways. Students from more formal church backgrounds found the spontaneity of lower-income churches "primitive" and "not real religion". And, at the end of the semester, a few students even had to face the dilemma of "going native," of identifying too closely with "their" new culture. In one instance, a white student from a fundamentalist background, a devout member of his own church, had to come to grips with this problem when members of an Hispanic Baptist church invited him to join their church. Although he (and all students) had made it clear from the beginning of his study that he was there as an observer, rather than as a potential convert, the members of this particular church and the student had established such rapport that it seemed only natural for church members to consider him a fellow congregant.

Finally, some students learned that creativity can be an integral part of the social sciences. All too often, students learn only from reading textbooks in which information is presented in predigested categories or from experiments in which the result is a foregone conclusion. In addition to the problems mentioned above, some students found that aspects of "their" church were intriguing enough to lead to further research and observation. One education major examined the goals and values reflected in the Christian school system at "her" church, and compared them to those in public schools. Another student, interested in bilingual education, studied the role of Spanish in the Hispanic church to which she was assigned. In particular, she looked at the specific occasions in which Spanish was used, in which only English was used, and in which either language might be used, and realized that Spanish was used exclusively in prayers directed to God for personal favors.

Of course, not all students gained equally from the church observation exercise. Some were content to do the bare minimum; others left with the same prejudices about others with which they came in. Still others never saw what anthropology was all about. Nonetheless, feedback from students in the form of evaluations and informal conversations indicated that for many of them, anthropology had come alive in a way textbooks alone could not do for them. Many had struggled with the question of what to observe, and how to get along with "others," and what it felt like to be different, to be (in a very small way) in a

minority. The students had struggled with the fieldwork process and realized that it could demand of them the precision of accounting, the rigor of the "hard sciences," and as much creativity as they could muster.

QUESTIONNAIRE

(Editor's Note: The questionnaire below was developed for college students living in the midst of a heavily Baptist population. The entire class studied different churches, but all were within the Baptist denomination. Hence, this questionnaire would have to be modified if used with a class studying churches, temples, or other religious institutions in other than the Baptist tradition.)

I. Identification Information (church name, denomination, status with regard to a larger denomination, location, number of members, average attendance at weekly service, paid staff/volunteers.)

II. Material Culture Variables (predominant male and female dress, printed program, musical instruments, choir robes, choir seating, collection posting, building exterior and interior, windows, style of seating, speaking platform, sound system, flowers, flag, other decorations, church layout, crosses and other religious symbols.)

III. Ethnic/Class Variables (socio-economic status, major ethnic groups present, ethnicity of minister, language used in church, language used by congregants.)

IV. Behavioral Variables (age/gender of most people at the service; style of service, use of "amens", handclapping, interjections etc; sermon--spontaneous or planned; collection--who does it and how; childcare --is it provided, how, where, when?)

V. Ministerial Variables (full-time or part-time, ethnicity, age, education, call to preach, age at call, relatives in ministry, dress, demeanor and voice, view of own role within congregation.)

Gordon Bronitsky
Anthropologist/Consultant

SMITHSONIAN SYMPOSIUM ON AMERICAN INDIANS

Eighty-six Washington, D.C. area elementary school educators recently attended a two-day Smithsonian symposium, "Teaching About Native Americans," jointly sponsored by the Department of Anthropology and the Office of Education of the National Museum of Natural History.

The symposium offered teachers, through lectures and three workshops, an opportunity to build upon their knowledge of American Indians, to evaluate teaching curricula for accuracy and cultural sensitivity, and to learn about new activities and approaches. Indian and non-Indian presenters were experts in the fields of anthropology and Indian education and included: JoAllyn Archambault (Standing Rock Sioux), Director, American Indian Program, National Museum of Natural History; George Abrams (Seneca), Special Assistant to the Director of the George Gustav Heye Center, National Museum of the American Indian (NMAI); Judith Brundin and Johanna Gorelick with the Education Department, NMAI; Joseph Bruchac, writer and storyteller; Mitchell Bush (Onondaga), Bureau of Indian Affairs; Anita Sue Chisholm (Absentee-Shawnee), Director, American Indian Institute, University of Oklahoma; Lisa Harjo (Choctaw), Denver Indian Center; Helen Rountree, anthropologist, Old Dominion University; Linda Skinner (Choctaw), Director, Indian Education, Oklahoma State Department of Education; and Michael Tsosie (Mohave), Chairman, Colorado River Indian Tribe School Board.

The three concurrent workshops focused on three published curricula, described in the Fall 1990 issue of *Anthro.Notes*, and were taught by one of the co-authors. Teachers received a copy of all three curricula.

It was challenging to organize this symposium, but a challenge I would encourage our *Anthro.Notes* readers to try for themselves as the teachers unanimously felt the sessions invaluable to their own education and that of their present and future students.

Ann Kaupp

SUMMER FIELDWORK OPPORTUNITIES

INTRODUCTION

If you are looking for adventure and an opportunity to acquire new skills, you may want to consider becoming a member of an archeological excavation team or a scientific expedition in the United States or abroad, or participating in a unique learning experience in a museum setting. Several of the organizations listed below offer special programs for teachers and students.

You may discover within your own community fieldwork opportunities available to you. Anthropology departments of local universities and colleges, state historic preservation offices, and state archeological societies often engage in local archeological excavations and frequently accept volunteers with no previous fieldwork experience. The Archaeological Institute of America (AIA) offers a listing of state archeologists associated with the national organization as part of its yearly field school listing for the U.S. and abroad. The cost is $10.50 for members and $12.50 for non-members. Write: AIA, 675 Commonwealth Ave., Boston, MA 02215, or call 617-353-9361. *Archaeology* magazine, published by the AIA, features an archeology travel guide to sites open to the public in the Old World (March/April issue) and the New World (May/June issue). A field school listing is also available from the American Anthropological Association for $5.00 for members and $7.00 for non-members, with a self-addressed envelope with 56 cents postage. Write: AAA, 1703 New Hampshire Ave., N.W., Washington, D.C. 20009 or call (202) 232-8800.

For archeological information regarding opportunities in the Washington, D.C. metropolitan area, the Smithsonian Institution's Department of Anthropology has prepared "A Guide to Resources on Local Archeology and Indian History." The guide includes a listing of museums and organizations, anthropological and archeological societies, fieldwork opportunities, and professionals involved in local archeology and Indian history. For a copy of this free leaflet, write: Anthropology Outreach and Public Information Office, Department of Anthropology, National Museum of Natural History, Smithsonian Institution, Washington, D.C. 20560.

SMITHSONIAN PROGRAMS

A National Seminar for Teachers titled "Teaching Writing Using Museum and Other Community Resources" will be offered July 9-18 by the Smithsonian Institution for elementary and secondary teachers living more than 75 miles outside Washington, D.C. The fee for materials is $55. The course carries optional graduate credit from the University of Virginia, with tuition costing approximately $500. In addition to learning about ways to use local museum exhibits and such diverse resources as cemeteries and houses as tools for teaching writing, participants will interview several Smithsonian staff writers to learn various approaches to writing. Applications must be postmarked by March 30. For more information and an application form, write: National Seminars, Office of Elementary and Secondary Education, Arts & Industries Bldg., Room 1163, Smithsonian Institution, Washington, DC 20560; or call (202) 357-3049 or (202) 357-1696 (TDD).

The Office of Elementary and Secondary Education (OESE) also offers ten week-long seminars for teachers, K-12, from Maryland, District of Columbia, and Virginia teachers who want in-service credit. Practical teaching ideas are given in a variety of arts and humanity subjects ranging from the influence of African art on contemporary art to developing quincentenary projects. For information, call Clare Cuddy at (202) 357-2404 for a registration form after May 1.

On April 12, OESE is sponsoring a program titled "Word of Mouth: Learning and Teaching Through Stories" that will consist of a workshop, presentations, and an evening of storytelling. Advance registration is April 8. For more information, call (202) 357-2404 or 357-3049.

Smithsonian Research Expeditions offers an opportunity to work for two weeks alongside a Smithsonian researcher or curator as a member of a research team. An

anthropology-related project, scheduled for July 16-28, offers participants an opportunity to record Hosay, a major Shi'ite festival, by conducting interviews and background research in Kingston. The data collected will be used by the Jamaican Institute for Folk Culture. For further information, write or call Smithsonian Research Expeditions, 490 L'Enfant Plaza, S.W., Suite 4210, Washington, DC 22024; (202) 357-1350.

OTHER ORGANIZATIONS TO CONTACT

There are several organizations that offer volunteer public participation in worldwide research expeditions in various scientific disciplines. Many of these organizations, listed below, are non-profit and participation fees may be treated as tax-deductible contributions.

University Research Expeditions Program
University of California, Desk K-15,
Berkeley, CA 94720
(415) 642-6586.

Earthwatch
680 Mount Auburn St., Box 403,
Watertown, MA 02172.
(617) 926-8200
(Earthwatch has a special scholarship program for teachers.)

International Research Expeditions
140 University Dr.
Menlo Park, CA 94024
(415) 323-4228

Foundation for Field Research
787 South Grade Rd.
Alpine, CA 92001-0020
(619) 445-9264

CEDAM International
(CEDAM stands for Conservation, Education, Diving, Archeology, Museums)
Fox Road
Croton-on-Hudson, NY 10520
(914) 271-5365

SELECTED FIELD SCHOOLS

Below is a selected list of organizations that offer fieldwork experience in the United States and abroad:

Summer Field School in St. Eustatius, Dutch West Indies, is sponsored by The College of William and Mary, June 12-July 23. The main focus will be the excavation of 18th and 19th century Dutch domestic urban sites. Application deadline is April 1. Write Carolyn B. Carson, Director, International Programs, Reves Center for International Studies, College of William and Mary, Williamsburg, VA 23185, or call (804) 221-3590; FAX (804) 221-3597.

Parsons School of Design offers students and teachers the course: Paleolithic Art and Archaeology of the Périgord (Dordogne), July 27-August 12. For more information, write or call: Parsons School of Design, Office of Special Programs, 66 Fifth Avenue, New York, NY 10011; (212) 741-8975. Early application is advised.

Prehistoric Caves of France is a two-week bicycling/camping study tour of the Les Eyzies region, from June 4-18. Participants bring their own bikes (flown at no extra charge) and camping gear. For more information contact: Dr. Whitney Azoy, Lawrenceville School, Lawrenceville, NJ 08648; (609) 895-1334 (evenings).

Crow Canyon Archaeological Center is a non-profit institution specializing in Southwestern archeological research and

education. The following programs introduce participants to archeological field methods, laboratory techniques, and excavation. The Adult Research Seminars, consisting of week-long sessions, are conducted from June through October. Transferable college credit is available. The High School Field School, also offering transferable credit, takes place from July 1 to 28; applications should be mailed in asap. The Teachers' Workshop, conducted from August 3-10, offers three-hours of graduate credit. Write or call: Crow Canyon Archaeological Center, 23390 County Road K, Cortez, CO 81321; (800) 422-8975, (303) 565-8975.

Center for American Archeology, Kampsville Archeological Center conducts educational research programs for junior and senior high school students, college students and the non-professional, and separate workshops for teachers. Write: Admissions Office, Kampsville Archeological Center, Kampsville, IL 62053, or call (618) 653-4316.

High school juniors and seniors and college students are also eligible to enroll for Archeological Field School at Kampsville through the University of Chicago. A nine week program runs from June 16-August 17 and a five week program from June 16-July 20. No archeological experience is necessary. Write The University of Chicago, Summer Session Office, Archeological Field School, 5835 S. Kimbark Ave., Chicago, IL 60637, or call (312) 702-6033.

Northwestern University's Ethnographic Field School (June 24-August 17) offers students of all disciplines an opportunity to experience another culture. Students design their own independent research project to learn about the Navajo or Hispanic cultures in New Mexico and Arizona. Write or call: Professor Oswald Werner, Department of Anthropology, Northwestern University, Evanston, IL 60208; (708) 491-5402 or (708) 328-4012, evenings.

Historical Archaeology Field School at Historic St. Mary's City, Maryland will focus this season on excavating a 17th century chapel, June 5-August 11. Housing is provided at a minimal cost. Application deadline is April 26. Write Archaeology Program, Department of Research, HSMC, P.O. Box 39, St. Mary's City, MD 20686, or call (301) 862-0974.

Grasshopper, a town on the Fort Apache Indian Reservation in east-central Arizona, is the site of the largest Mogollon pueblo community 600 years ago. For information on the six-week field session, write J. Jefferson Reid, Director, Archaeological Field School, Department of Anthropology, The University of Arizona, Tucson, AZ 85721.

La Cienega del Pasado, a Spanish Colonial habitation site dated from ca. 1620 - 1680 located near Santa Fe, New Mexico, is the focus of the Field School of The Colorado College (Jun e 3-July 12). Write: Dr. Marianne L. Stoller, Chair, Department of Anthropology, The Colorado College, 14 East Cache La Poudre St., Colorado Springs, CO 80903, or call (719) 389-6362.

Prehistoric Archaeology at Heshot ula Pueblo, an ancestral Zuni village, is sponsored by Arizona State University, June 3-July 5. Write: Keith W. Kintigh, Director, Archaeological Field School, Department of Anthropology, Arizona State University, Tempe, AZ 85287-2402.

The Origins of Caddoan Chiefdoms is an Earthwatch project in eastern Oklahoma, directed by Dan Rogers (Department of Anthropology, Smithsonian Institution) and Lois Albert (Oklahoma Archeological Survey). Excavations of these early moundbuilders (dated ca. A.D. 600-800) will take place May 19-31; June 2-14 and June 16-28. To apply for one of these sessions, write: Earthwatch, Box 403PI, Watertown, MA 02272, or call (617) 926-8200.

Human Origins and Prehistory in Kenya: The Koobi Fora Field School, offered by Harvard University Summer School and the National Museums of Kenya, introduces the wealth of paleoanthropological evidence at Koobi Fora and field methods in early man research. The field school consists of two six-week training sessions (June 6-July 17 and July 24-September 3). Write or call: Dr. Harry V. Merrick, Koobi Fora Field School, Harvard Summer School, 20 Garden St., Cambridge, MA 02138; (203) 481-0674, or (617) 495-2921 (Harvard University Summer School office).

Ann Kaupp

("**Ape Conservation**" continued from p.4)

intensively by both commercial (tea and coffee) and subsistence (manioc, bananas, potatoes) farmers. The human population density here approaches 300 people per square mile. Protein- and cash-poor farmers and BaTwa pygmies in close reciprocal relationships with farmers continue to set wire snares for small game inside the forest reserve, snares that occasionally maim or kill gorillas. For the landless pygmies, whose traditional life is tied to the forest, life outside the declining forest areas holds few possibilities. In Rwanda, the number of snares discovered by the anti-poaching patrols did decline from 2500 in 1988 to 1500-1600 in 1989.

Since gorillas (unlike the tourists) can travel freely across the Zaire-Rwanda border, anti-poaching efforts need to be coordinated internationally, but are hampered by political instability and armed insurrection in both countries. In the summer of 1990, an armed Tutsi force invaded Rwanda from Uganda across the eastern part of the Virunga range. As of February 1991, all conservation and tourist activities in the Parc des Volcans had been abandoned and the research facilities at Karisoke (established by the late Dian Fossey) burned to the ground. The effect on the small gorilla population confined in the Virungas could be devastating.

Tourism and Gorilla Health: A Vet's Dilemma

Is tourism succeeding as a conservation strategy? Are mountain gorilla numbers at least stable, if not increasing, and does the commitment of the governments and wildlife organizations involved appear solid? In early September 1990, we shared a flight from Nairobi to Frankfurt with Liz MacFie, a veterinarian with the Virunga Veterinary Center in Ruhengeri, and Jeff Seed, of the Karisoke Research Center. MacFie's organization, funded by the Morris Animal Foundation, is responsible for the surveillance and care of mountain gorilla health, while Seed oversees the anti-poaching patrols. From them we learned a great deal.

The November 1989 gorilla census indicated a total population of at least 310 animals in about 30 groups, up about 20% from 1981. But with such a small total population, extinction is possible at any moment. Gorillas, like chimps, are close enough to humans to catch their diseases. The small size of the reserves, the large numbers of humans on their peripheries, and the close daily contact of gorillas with tourists, guards, and others makes it almost impossible to isolate the gorilla population from human disease organisms. Even though regulations stipulate that humans must keep at least a one-meter distance between themselves and the gorillas in

Zaire, more in Rwanda, gorillas can and do initiate direct physical contact across these distances. A severe epidemic or an infection centered in one of the larger groups could easily disrupt the population and tip the balance towards rapid extinction.

What can or should a vet do about a sick or injured gorilla living in the "wild" in its natural habitat? After all, should not natural selection be allowed to weed out less fit or weaker individuals? If humans intervene, will they not be condemning future generations descended from weak or sickly individuals to constant veterinary intervention? Should MacFie attempt to save the life of a subordinate male injured by another male? Last year a respiratory epidemic struck one group of 34 animals, representing 11% of the entire population of mountain gorillas. The dominant silverback male died in April. At this point, a decision was made to treat the seriously ill animals with long-acting and broad-spectrum antibiotics. The gorilla veterinarian faces a constant dilemma: too much intervention will create a weakened, medically dependent population, while lack of intervention will almost surely lead to rapid extinction.

Chimpanzees: Tourism and Conservation

Could the gorilla model of forest tourism be used to set aside and patrol forest reserves for the common chimpanzee, and to mobilize local governments to support conservation measures more effectively? This possibility is currently being explored by several countries including Tanzania, Burundi and Zaire. Gombe National Park in Tanzania, the locus of most of Jane Goodall's studies has been inundated by the most intrepid tourists who find their own way there, on foot or by water taxi, camp on the beach, and attempt to make their own arrangements with the underpaid park staff. This situation compromises the research program at Gombe and also endangers the chimpanzees, who are even more susceptible than gorillas to human diseases. In 1966, a polio epidemic that began among the human population in Kigoma district killed about 10-15% of the Gombe chimpanzee population in one year, and in 1988, an additional 14 animals died from an introduced respiratory infection. Bacteria, parasites, and other infectious organisms can be transmitted both by tourists and by resident staff.

In Burundi, Jane Goodall has been working to help set up a tourism program in a small vestige of forest that has been turned into a sanctuary for chimpanzees confiscated from poachers and dealers. Given the demand for chimpanzees as medical research subjects, the threat of illegal recapture is constant. One group of 30 vagabond animals is followed around full-time by ten armed guards. Goodall and others involved in this conservation effort hope that the greater visibility of the chimpanzees and daily contact with tourists when the program is well-established will help deter poachers.

One of the greatest problems with marketing chimpanzee tourism is delivering the chimpanzee experience on a predictable daily schedule. Chimpanzees are much more mobile than gorillas, and unlike gorillas, live in fluid social groupings whose membership is changing constantly. Not only do individuals move up to 25 km. per day, but they often travel above ground level, leaving little or no trail for an earthbound tourist to follow. The chimpanzee tourism project set up by Conrad Aveling and Annette Lanjoua in Zaire illustrates how chimpanzee tourism differs from gorilla tourism.

Chimpanzee poaching was relatively common in eastern Zaire when our archaeological research there began. In 1987, Conrad Aveling, who had just set up the gorilla tourism site at Djombe, heard about a group of chimpanzees in Tongo, a small salient area of the Par National des Virungas, that were threatened with total destruction of their habitat from charcoal cutting. In a country where almost everyone cooks their food with wood or charcoal, and where the basic staples (manioc, and plantains) are inedible unless they are cooked for a considerable time, the pressure on the remaining forest areas is enormous, even if people are not allowed to farm there. Aveling and Lanjoua had to provide alternate firewood/charcoal sources before the Tongo chimpanzees could be protected and developed as tourism subjects. The

funding agencies involved, World Wildlife Fund and the Frankfurt Zoological Society, were persuaded to support two reforestation projects outside the park area at Tongo. In addition to a continuing source of firewood, these projects also yielded both fruit for immediate human consumption and exotic wood species for commercial sale.

As a result, the local people appear very supportive of the chimpanzee project at Tongo, which began to accept tourist groups at the end of 1989. Twenty-six villagers are directly employed as guides and project staff, others as construction workers and staff for a new hotel recently developed there by a local Zairois contractor. When tourists arrive, they are asked if they have come to see "our chimps". Few other wildlife conservation projects in Africa are "owned" by the local community to this degree.

Initially, one trail was cut into the forest to aid in tracking the chimps; this was soon followed by a cross-cutting network of trails at 200-meter intervals, which provide human trackers rapid access to all parts of the chimpanzees' range. Trackers fan out in the early morning before the tourists arrive, following the chimpanzees by their calls. When a group is located, the trackers radio the tourist guide, who brings the tourists directly to the chimps' location. Occasionally tourists fail to see chimpanzees, but during the first eight months of tourism (Jan.-Aug. 1990), 98% of all tourist visits had resulted in at least a sighting of chimpanzees. This phenomenal success rate is due not only to the hard work of the trackers and guides but also to the unusual ecological situation of the Tongo site. The chimps occupy an ecological "island" of mature forest surrounded by the open desolation of recent lava flows. The forest island is dense with mature fruit-bearing trees, especially the chimps' favorite figs. The resulting population density of chimps, about 4 per km2, is among the highest known.

Because the chimps can retreat into the treetops, visitors must often be content with glimpses of black shapes in the green canopy. This is particularly true on rainy days, when the chimps spend most of their time aloft. Since encounters cannot be guaranteed, the fee has been set much lower than for gorillas, at $40 per visit, and the number in the daily group is limited to four. It is unclear whether chimps can generate enough foreign currency to win the kind of government support provided to gorilla conservation.

Clearly, unlike mountain gorilla tourism, chimpanzee tourism can never provide an umbrella of protection over the total chimpanzee population. It is a quandary which awaits another solution.

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