

anthro notes

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ARCHEOLOGISTS TOOL UP

"What sets off this century, what defines it uniquely, is the exponential growth of the sciences." The changes science has wrought are all around us, perhaps most subtly in the machinery extending our ability to see, hear, smell, taste, count, and measure-- through CAT scanners, high-powered microscopes, telescopes, cameras, computers, and analytical instruments. We are, indeed, the "tool-using animal par excellence" (Science 84, November Anniversary Issue). Each branch of science benefits and changes as discoveries are made in other branches.

Modern archeology dramatically demonstrates this "snowball effect" through the exploitation of new scientific technologies and through the use of field situations as laboratories to test ideas about the past.

The big questions archeology asks of the past remain the same: about the emergence of humans and the nature of early human cultural adaptations; about the beginnings of agriculture and domestication; and about the growth of cities and civilizations. The emphasis, however, has shifted towards the underlying processes of each

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change, focusing on why and how, in addition to what and when.

Four Smithsonian-associated scientists reflect the new trends in their work. Bruce Smith used a scanning electron microscope to show that early North Americans domesticated local grasses long before maize was introduced. Alison Brooks studied present-day hunters and gatherers to understand the lives of their ancient African counterparts and is working with physicists and chemists to develop new dating techniques for the earlier sites. Using computers to manipulate huge quantities of data, Melinda Zeder investigated the rise of specialized urban economies in the Near East through a study of the way animals were butchered and the meat distributed. And George Frison experimented with the replication and use of stone tools on modern elephants to understand the uses of such tools and weaponry by ancient mammoth hunters of the North American plains.

STORED SEEDS SURPRISE

Curator Bruce Smith has long puzzled over the sudden emergence of complex, ranked societies and intensive maize agriculture, both appearing in eastern North America about A.D. 800-1000. Smith and others became interested in the possibility of horticultural practices prior to that period based on local rather than imported plants. Since the 1960's, using seed flotation devices, archeologists have documented the existence of a few domesticated native plants prior to A.D. 750, bolstering the argument that seed agriculture provided an important food before corn.

But, how does one irrefutably demonstrate that people were deliberately storing seeds for future planting, that they were, in fact, domesticating native plants? Since no farming implements or evidence of garden plots exist, Smith needed a

storage device containing domesticated seeds from an archeological site dated well before A.D. 750.

In 1982 Smith read an article listing examples of stored seeds recovered from archeological sites. Included was a site Smith knew, for its collections were under his curatorial care: the Russell Cave site in Alabama excavated from 1956-58. Intrigued, Smith sorted through forty-five drawers of uncatalogued material looking for a small basket of carbonized seeds. Smith found the basket and a small handful of tiny seeds, looking much like poppyseeds, lying amidst dirt and charcoal. An earlier archeologist might have tossed away the contents; for Smith his treasure-trove meant 50,000 seeds to be analyzed for identification and charcoal to be sent to the Radiocarbon Dating Laboratory. Smith identified the seeds as Chenopodium berlandieri, a starchy native plant. When the date came back, 1875 plus or minus 55 years, Smith knew he had the proof: native seeds in the New World deliberately stored by human beings right around A.D. 1.

SEM PROVES DOMESTICATION

But, did these seeds represent wild or domesticated plants? Was there any way to document the morphological changes domestication inevitably brings to seeds? In the 1950's, the archeologist who thought to save the basket of seeds could neither date them nor ascertain their wild or domesticated status. In the intervening years, science and technology had developed methods to determine both. Like all scientific discoveries, Smith's depended on other scientists' work, on slowly accumulating bits of evidence fitting together like an intricate jigsaw puzzle. In 1981 botanist Hugh Wilson, using the scanning electron microscope (SEM), demonstrated the extreme reduction or lack of an outer seed coat in "chia," a variety of a domesticated Chenopodium.

The SEM allows scientists to enter the world of the infinitesimal, seeing nature's intricacies of design on a scale of magnification difficult to imagine. Under the SEM, a tiny pollen grain appears like the moon's surface photographed by astronauts. With the Smithsonian's SEM, Smith looked at three different kinds of Chenopodium seeds: Russell Cave, modern domesticated "chia," and modern wild species. The experiment clearly demonstrated that the Russell Cave seeds came from domesticated plants: the seed's thin outer coat (averaging 11 microns) was clearly comparable to that of domesticated "chia," not to the thick outer coat of the wild species (averaging 47.6 microns) (Science, October 12, 1984). By the beginning of the Christian era, New World peoples were cultivating garden plots by storing and planting a domesticated variety of Chenopodium.

NEW DATING TECHNIQUES

The radiocarbon dating which pinned down Smith's Chenopodium cannot help Research Associate Alison Brooks whose research focuses on the Middle Stone Age ca. 80,000 years ago. With present technologies, radiocarbon dating simply will not work on material older than 60,000 years. Working with chemist Alan Franklin and physicist Bill Hornyak at the University of Maryland's Thermoluminescence Laboratory, Brooks has turned to a substance archeologists previously threw away: sand. Since Brooks works in Botswana's Kalahari Desert, she has plenty of sand samples containing the quartz grains which may yield a new archeological "time clock." Quartz crystals absorb and trap radiation energy from the soil at a constant rate for each location.

If sand will not do it perhaps ostrich egg shell will. It appears for at least 100,000 years in the African archeological record not only because the eggs were eaten, but also because such shells were used as water storage

containers and later made into beads. Until recently, ostrich eggshell was collected, but treated only as another food remain. With today's technology, Dr. P.E. Hare of Washington's Carnegie Institution hopes that chemical analysis of eggshell can reveal the approximate date when the shell was laid, by measuring the slow deterioration of its amino acids. In addition, study of the shell may reveal the average annual temperature when the ostrich lived, by measuring the ratio of lighter to heavier oxygen bound into the shell's chemical structure. Even the environment can be partially reconstructed, since the varying quantities of a stable isotope of carbon (C-13) reveal whether the ostrich was eating tropical savannah grasses or shrubs.

ON THE ROAD TO URBANISM

What ancient people ate is a question many archeologists are asking, for traces of ancient diets also provide evidence of environment, changing economies, and even the organization of society. For Melinda Zeder, completing her doctoral dissertation as a Smithsonian Research Associate, diet provides a powerful analytical tool for defining and tracing urbanism in the Middle East.

Like Smith, Zeder is fascinated by the process of change in populations undergoing major transitions. Whereas Smith studies plant remains, Zeder analyzes animal bones--100,000 of them excavated from several levels of Tal-e Malyan, a Bronze Age site in Iran occupied between ca. 3500 and 1000 B.C. Few archeologists have saved whole collections of animal bones from sites where written texts existed, much less analyzed them for 42 different bits of information and 11 measurements! Only the new computer technology can deal with such large quantities of data. Like Brooks' sand, here was material previously ignored from which new

techniques can glean answers provided the right questions are asked.

Zeder began with a working definition of urbanism as a regional economic system characterized by increasing specialization. Zeder predicted that the increased specialization in the management of economically important animal resources would cause changes detectable in the recovered bones. From an early direct distribution system, with people eating their own animals (sheep, goats, pigs, cattle) or procuring them directly from herders, urbanism would bring about an indirect distribution system with middlemen removing consumers far from herders or meat producers.

CRUNCHING NUMBERS

How could 100,000 broken bones reflect a changing distribution system in turn reflecting the transition to urban life? A laborious identification of each bone's species, age at death, sex, and butchering scars, along with sophisticated computer analysis, tested Zeder's prediction that economic changes would affect the types of animals consumed, their ages, sex, and the butchering techniques used. For example, if people raise their own animals or procure them directly from herders, they consume mostly young males, six months to two years of age, both to control male reproduction and to avoid culling the breeding stock. If meat is procured from a middleman, however, the bones remaining from domestic meals would reflect the middleman's preferences, particularly for male sheep and goats two to three years of age when they provide the most meat.

Zeder also predicted that butchering techniques would become more specialized and uniform during periods of urban expansion when an indirect, centralized system of butchering replaced individual households procuring and butchering meat according

to individual styles and preferences. On the whole, the computerized analysis of the bones did bear out Zeder's predictions, demonstrating that faunal analysis can help monitor and explain the ebb and flow of urbanism in the ancient Middle East.

THE REVEALING PRESENT

In addition to borrowing laboratory techniques from chemists, physicists, botanists, and zoologists, archeologists also use the present as a laboratory for testing theories about the past as demonstrated in the research carried out by Alison Brooks and John Yellen with modern hunting and gathering peoples in Botswana, Africa.

"By studying why and where the San camp as they do, leave their refuse, and set up their hunting blinds, we gain greater understanding of human responsiveness to the environment. Hunters and gatherers do not leave a strong archeological record because they do not often come back to the same location to camp. They are more apt to leave evidence at ambush sites than at places they stop to sleep."

In the 1970's Brooks excavated an archeological site located at the edge of a large seasonal water hole. Although radiocarbon dating suggested that the uppermost layers were at most a few hundred years old, chipped stone tools showed it was older than the memories of living people who do not remember the use of chipped stone arrowheads or scrapers. Hunters and gatherers today do not camp at the edges of large water holes, to avoid both insect pests and large predators, which may lie in wait there for game. Furthermore, a fire pit dug into the ground at the site was unlike most fires at a living site, where visible fires are built on the surface for warmth and protection. And larger pits closer to the water contained bone and

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SOUTH AFRICAN DIRECTOR MEETS NOBLE SAVAGE

In a recent telecast of Sneak Previews (PBS) Jeffrey Lyons and Neil Gabler discussed changing film portrayals of aliens--from other countries, "primitive" cultures, and outer space. From dangerous, cruel, and "inhuman" beings, aliens in recent years have begun a return to Rousseau's "noble savage" represented by E.T., the Iceman, and Tarzan's ape mother. As technological progress threatens to destroy the world rather than save it, some films may be expressing a desire to return to a simpler, preindustrial "Garden of Eden". But, when such films draw on anthropological data, an important line between documentary and fantasy blurs.

In The Gods Must Be Crazy, a highly successful South African comedy, the San (bushmen) are depicted as remote inhabitants of the Kalahari desert--in the 1980's. They are innocent of any contact with the harried, materialistic and purposeless life of the European industrialized societies which South Africa (much sanitized in this film) supposedly exemplifies. Although the bushmen utterances are as unintelligible to most viewers as the musical whistles of R2D2 in Star Wars, the viewer finds much to admire in this portrayal of their simple life with its ample food, shelter and clothing, and its lack of materialism, jealousy, and poverty.

The introduction of the most minimal contact with the West threatens to destroy this happy society. A coke bottle from an airplane drops at the feet of Xiang who immediately interprets it as a gift from the gods. Though the bottle offers multiple uses, it creates new desires and jealousies. Unlike the apple in the "Garden of Eden," the bottle was given "by the gods," so Xiang sets out to remove the irritant by returning it to its owners. This journey to the gods'

home at the edge of the world offers many occasions for gentle humor, poking fun at the innocence of a man who thinks trucks are rude noisy animals and who wonders how little people get into telescopes.

The portrayal of other African societies in the film represents another extreme--the Hobbesian view of the cultural "other" as savage, cruel, stupid, and childlike. So heavy-handed is this caricature of emergent black African countries that one Washington reviewer (City Paper, November 15, 1984) thought Botswana was an imaginary country. While it is easy to see bias in this negative view of black Africa, it is harder to see it in the "noble savage" portrait of the bushmen. Yet bias is no less prominent there.

The film fails on two levels to give an accurate picture of bushman life. On one level, the bushmen in the film do not behave "naturally" or



according to their own cultural rules. Instead, they move and speak according to direction given by someone not versed in their culture. They walk too quickly and too closely together when going out to gather. They behave in an uncharacteristically demonstrative way, weeping, laughing, and embracing, at the departure and subsequent return of Xiang. A single oversized hut, rather than a circle of small huts, serves far too many people for a single "family" or hearth group. The camp is located in the midst of a treeless grassy area, unsuited to a climate where air temperatures in the shade regularly exceed 110 degrees. In addition, the bushmen speak !Kung, but extra clicks were overlaid on the sound track to make the language seem even stranger. Throughout, the translator uses the English word "thing" to refer to the coke bottle, although Xiang is using the !Kung word for bottle "n!abesa"!

The second level of bias is immediately apparent if the film is compared with John Marshall's N!ai: The Story of a !Kung Woman, filmed for the Odyssey television series in the same place (Namibia near the Botswana border), in the same year (1980), and using many of the same people as The Gods Must Be Crazy. From N!ai it is very clear that the !Kung San are hardly isolated from western influence today. A remnant of their ancient territory has been made a bushman "homeland." There, an administrative center has been established where !Kung are encouraged to settle and to become dependent on handouts of mealie meal from the white administrators. It is also evident that the !Kung are not unaware of bottles, particularly those which contain alcoholic beverages.

The "Garden of Eden," if any, in N!ai lies in her childhood memories. Returning to the hunting and gathering life of that "Garden of Eden" is impossible, since the resources no longer exist given the numbers of people crowded into the homeland. In

any case, few would wish to give up their new life entirely, despite its drunkenness, fighting, army service, and jealousy.

Even in the hunting and gathering past, life was more difficult than The Gods would suggest: infant and maternal mortality was high, girls were jealous of each other, young women were married to husbands chosen by their parents, and people accused each other of adultery and fought about it. N!ai shows the ambivalence of the hunter-gatherer in transition, for both the present and the past have attractive and unattractive aspects.

N!ai is an ethnographic document, an extraordinary window into the life of someone in another culture. It is not without bias either, since N!ai is not entirely representative of women in her culture. Furthermore, Marshall focuses more on riveting scenes of contemporary cultural clash and disintegration and less on ordinary scenes of peaceful daily life. But choosing scenes is not the same as directing actors from an alien culture in actions they never would have performed.

In real life, the bushmen share our humanity, as aliens such as E.T. and R2D2 cannot. The idealized portrayal of the bushmen in The Gods Must Be Crazy is as much a rejection of that common humanity as is the negative portrayal of black Africa. It is good theatre but poor ethnography.

Alison Brooks

VIEWS OF A VANISHING FRONTIER commemorates the 1832 American expedition of German naturalist, Prince Maximilian, and Swiss artist, Karl Bodmer. This exhibition, containing over 120 watercolors and sketches by Bodmer, is on view in the National Museum of Natural History through March 31, 1985.

TEACHER'S CORNER: STUDYING COMMUNITY FESTIVALS

American community celebrations recently are attracting some anthropologists' attention. Town festivals are frequently compared to traditional societies' public rituals which reflect and justify contemporary values and social situations and offer a vision of the future. In the American West, where I have lived for the past four years and conducted research (sponsored by the Wyoming Council for the Humanities) on community festivals, many towns have celebration "days" such as the famous "Frontier Days" in Cheyenne, Wyoming. Parades, rodeos, carnivals, bazaars, livestock shows, and musical performances highlight these festivals. Most community residents believe the festivals are organized to bring in tourist dollars, but anthropologists argue that these celebrations have other important functions: preserving heritage, fostering social cohesion, releasing tensions accumulating from daily life, and inculcating pride and loyalty.

In other regions, community festivals may revolve around national holidays such as July 4th, Thanksgiving or Memorial Day; a religious holiday such as Easter; or an ethnic celebration such as the Chinese New Year. Sporting events (the Olympics or the Rose Bowl) provide another theme. Throughout the United States, community festivals provide an easily accessible resource for student "field" involvement. Festivals offer a unified focus for learning about history, government, community, social interaction, traditional values, and social change. Furthermore, numerous skills (observation, note-taking, analysis, and written description) are involved in the study of community festivals.

This teaching activity first offers a general approach for studying community festivals. A study guide is next provided to help teachers conduct a field study with their students. Finally, one celebration is described illustrating the type of analysis possible from such a study.

GENERAL APPROACH

Students carry a notebook to make brief notes on the spot, but at regular intervals (every 30-45 minutes) they stop and record more details from memory. They write an "objective" account of what they saw and heard (i.e., sequence and time of events, actors, spectators' reactions); then they can add their personal reactions. Later they hypothesize about the functions of the festival event for participants and spectators.

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Students interested in photography can take pictures to check the accuracy of their observations and to search for greater detail. Tape recorders can record sound level and crowd response as well as conduct interviews. Library research and newspaper archives are important resources for historical perspectives on the festival. Students may compare these accounts with oral history reports from informant interviews.

If students collaborate when they write up their notes, they will see firsthand that observation has a subjective component and that the interpretation of human behavior is very difficult. The students' differing reactions to observation should generate interesting classroom discussion. It is particularly fascinating for students to think about how the perspectives of different people might influence their interpretations of the festival. For example, how might a person new to the area interpret the history of the town or the major occupations of its people from observing the festival? Is



RELEASING TENSIONS

a rancher's view of a county fair different from a town shopkeeper's or a tourist's? How does a man's view differ from a woman's or a child's?

Before a study is begun, it may be necessary for permission to be obtained from an organizing group, participants, or perhaps the Chamber of Commerce. Requests to avoid being photographed, recorded, or observed should be honored. Most people readily consent as I experienced in my study in Thermopolis, Wyoming.

STUDY GUIDE

The following guide (adapted from Evelyn Hatcher's Festivals: Study Notes and Queries. Evelyn Payne Thatcher Museum of Anthropology, Technical Paper #1, 1979. St. Cloud, MN: St. Cloud State University. \$2.00) can help students gather data to analyze a local community festival.

1. General Description of the Festival
 - A. Number of events in the festival (parade, carnival).
 - B. Number of units in events (floats, booths, rides).
 - C. What is the duration of the festival and of each event?
 - D. How long has the festival been conducted? How has it changed in content?
2. Festival Setting
 - A. Downtown, park, auditorium. How is the area changed from its ordinary function and appearance?
 - B. Layout. (Make a map.)
 - C. How do people get from place to place? What is the movement pattern? (linear, circular, randomly scattered). How does this foster social interaction?
 - D. Do many things go on simultaneously or do all people attend the same events? How does this affect social behavior and the expression of emotions?

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3. Type of Festival

- A. Calendrical (every year at the same time), seasonal (harvest, county fair), religious, ethnic.
- B. Does each event have the same focus? (A parade may celebrate town history while a carnival in the same festival does not.)
- C. What message is given about the past, present, and future?
- D. When has each event become a part of the festival?
- E. What values are fostered by each event?

4. Participation in the Festival

- A. Who plans the festival?
- B. Who participates and how?
- C. What groups of people are attracted to what events and why?
- D. What is the spectator/participant ratio? (few watching with many participating as with a square dance, or few participating with many watching as with a parade)

5. Mood of the Crowd

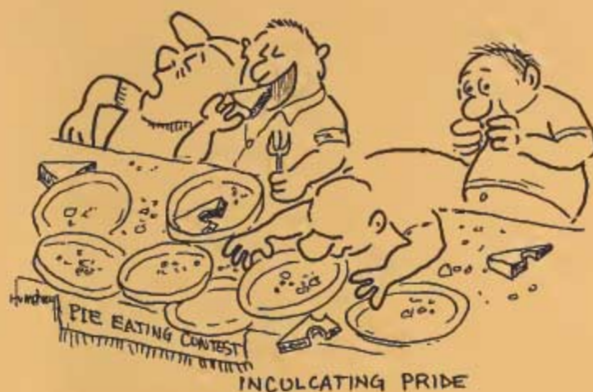
- A. Comraderie, partisanship, agitation.
- B. How consistent is the mood? When does it change and why?

6. Types of Objects Used in the Festival

- A. Arts and crafts, manufactured merchandise, and floats.
- B. How are the objects presented to the public? What are the functions of the objects?
- C. Which objects attract the most attention and why?

7. Symbolism

- A. What kind of message is given about the past?
- B. What kinds of national symbols are used? (flags, soldiers in uniform, colors) What responses are evoked during the festival?
- C. What kinds of local symbols are used? (farm machinery, cowboys, new technology)



- D. What kind of ethnic symbols are used?

8. Costs/Rewards for Participants and Spectators

- A. What does it cost in terms of time, money, or donated goods?
- B. What do the participants gain?
- C. What do the spectators gain?

9. Functions of the Festival

- A. What do people say is the purpose of the festival?
- B. In what ways is the festival period distinguished from the regular life of the participants and spectators?
- C. Do people attend the festival year after year? Why?
- D. To what extent is a sense of community fostered by the festival?

THERMOPOLIS PAGEANT DAYS

Thermopolis' town celebration, like many in the West, contains several events including parades, sidewalk sales, a carnival of rides and games, a demolition derby, a horse show, and outdoor plays. Since 1950, however, a

unique event, the "Gift of the Waters Pageant," has played a central role in the festival. This pageant commemorates the Shoshoni Indians' 1896 cession of the hot springs near Thermopolis from their reservation lands. The Indians received \$60,000 in cash and cattle for the ten square acres. Many townspeople point to the hot springs as the primary reason for the founding and continued growth of the town. The "Gift of the Waters Pageant" develops various themes usually associated with traditional rituals: the importance of the past, the values of good will and harmony, and the feelings of reverence and respect. Though a few Indian dancers do participate, in return for payment, the festival is decidedly a non-Indian view of Thermopolis' past.

The one hour pageant, performed at dusk on a grassy knoll near the Thermopolis hot springs, is organized with narration and silent symbolic scenes alternating with traditional Indian dances performed by Shoshonis from the nearby Wind River Reservation. The poetic narration, originally composed in 1925, describes in symbolic form the townspeople's view of the history and purpose of the springs. Basically, the narration develops three interwoven themes: that the Shoshonis made a beneficent gift of their hot springs; that the springs have healing qualities; and that all peoples are brothers who share in God's bounty. The themes are interwoven through the role of Chief Washakie, leader of the Shoshonis when the treaty cession of the hot springs was made. The Chief is portrayed as a wise, generous man who willingly gave up the springs to his white brothers and also specified in the treaty that some of the waters should be reserved for free public use.

The notion that the water is sacred and healing is portrayed by the pageant's major silent activity. An Indian "princess" helped by two attendants dips a bowl into the spring.

She offers the bowl of water to a medicine man who drinks and passes the bowl to the other Shoshoni men who drink. Then "Chief Washakie" makes his gift. It is precisely the power of the water that recompenses the Shoshonis for their sacrificial gift, since the people who come from around the world to be healed will bless the Shoshonis.

A strong religious component ties in the themes of universal brotherhood and healing. One of the highlights of the performance is the rendition of the Lord's Prayer in sign language by a Shoshoni girl. While she works through the gestures, a member of the women's chorus, who has moved to a hidden spot overlooking the setting, sings the prayer. This sequence develops the theme of universal brotherhood which culminates in the closing dance of the pageant in which all the Shoshonis and the women in the chorus intermingle in the Shoshoni dance circle. The performance is slow-paced, solemn, and dignified, lightened only by the exuberance of the Shoshoni dances.

Studying such a pageant and community festival, students can ask questions such as: What is the relationship of this festival to local and national history? How does this pageant portray Native American-White relations? What elements of this festival promote social cohesion, local pride, and the preservation of tradition?

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MEET THE CARTOONIST

Q: When did you first discover your artistic talent?

A: I suppose it was when I was in the second grade and won a prize for a clay sculpture of an English Setter. In high school I was appointed art editor of the school paper for which I also produced many cartoons.

Q: What sparked your interest in cartooning?

A: I was probably most strongly influenced by journalism; both my father and uncle were in the newspaper business in Texas. My Uncle Walter was editor of the Ft. Worth Press and through him I first encountered Walt Kelly, creator of "Pogo", who remains, I think, one of the finest cartoon artists who ever lived. I became fascinated with the idea of becoming a cartoonist though I never much pursued it. Now that I think of it, I did some editorial cartoons for the Washington and Lee University newspaper in the 50's and political cartoons for the Washington newsletter, Politics, in the 60's and early 70's. I have been doing anthropology cartoons in the privacy of my study for years. I guess I have several hundred shoved in various desk drawers.

Q: Did you pursue your interest in art in college?

A: I got into fine arts at the University of Colorado and fancied myself a painter for a while. After a couple of semesters I quit school thinking I'd get into the art world and applied for a job at the Guggenheim Museum in New York City. I started out as a carpenter



Robert L. Humphrey, Professor of Anthropology at George Washington University, was department chairman for ten years and founded and was first director of the university's Museum Studies Program. For several years Humphrey has conducted a field school in MesoAmerica, visiting 20 or 30 sites of different ages in various environmental zones looking at the relationships between environment and art, architecture, culture, and socio-political systems. Humphrey has researched and published in the areas of Arctic archeology, early man,

Pre-Llano cultures of the Americas, prehistory of Washington, D.C., and the MesoAmerican ballgame. In addition to being a fellow of the Explorers Club, Humphrey, his wife Johanna, and son Rob enjoy sailing their little sloop, "Golondrina." (Editor Ann Kaupp recently interviewed him for Anthro.Notes.)

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and ended up a conservator. It was a fascinating experience. In those days it was a smaller institution and New York seemed smaller too. The museum brought me in contact with many artists including Franz Klein, Jackson Pollock, and Marcel Duchamp. I met Duchamp when he came in one day to fix a hole that I made with a Yankee screwdriver in his "Nude Descending a Staircase." I later returned to the University of Colorado to major in art history thinking it would be a good idea to have a college degree, even as a potential painter. However, my courses didn't satisfactorily address all the questions I was trying to answer about creativity, the role art plays in society, and the artist as a social critic.

Q: How did you happen to switch to anthropology as a career goal?

A: I don't know if I should tell you this, but a painter friend of mine and I were sitting in my little studio apartment in Washington. Both of us had spent the day painting and drinking beer, and we had run out of beer and paint. We didn't have any money except for a jar of pennies I had saved. With this jar we went to what was then the Lehigh Bar on M Street. We sat at a booth and ordered a couple of beers from an unsavory waitress who usually worked there. She would, for example, put peeled hard-boiled eggs in her pocket, and when she brought them to you they were covered with lint. When she gave us the bill I got my pennies out, and she said, "The hell with you guys, I'm not counting those pennies." We were really at a loss. A fellow at the bar turned around and said, "I'll buy those boys a beer." He turned out to be Don Hartle, anthropology professor at American University. We spent the evening

drinking beer and talking about anthropology, and I got to thinking that perhaps anthropology might give me the answers I was seeking. Under Hartle's influence I enrolled in more and more anthropology courses, and I ended up being his teaching assistant. Although I graduated magna cum laude in Art History, I made the decision to attend graduate school at the University of New Mexico, since I missed the Southwest. It was there that I became more and more interested in archeology.

Q: Where did your interest in archeology lead you?

A: After a couple of field sessions in Southwest archeology, I reckoned I had had enough of pot sherds and became interested in early man. I was at work on my Masters thesis on pre-projectile point cultures in New Mexico, which were rather controversial at that time. Jack Campbell, the new department chairman, gave me the idea of not only going straight for my doctorate, but also of looking for evidence of early man outside of New Mexico in northern Alaska where no surveys had previously been done. In 1965 I took off with a field assistant and two Eskimos from the Arctic Research Lab at Pt. Barrow and surveyed the Utukok River Valley [in the northwest corner of Alaska], where a geologist had found a fluted point. We found about 25 archeological sites and turned up a lot of material that looked like European Upper Paleolithic along with sites containing later Eskimo artifacts. The next summer, with Dennis Stanford as my field assistant, we found fluted points which looked like Llano complex further south, and that formed the basis of my doctoral dissertation. I continue to believe that Clovis did not develop and originate in the

interior of North America, but that it came in as a discrete culture at some point around 15,000 B.C. and diffused south from there.

Q: Does your interest in early man explain your frequent depiction of cavemen in your cartoons for Anthro.Notes?

A: I suppose it came naturally with the field. I started drawing cavemen years ago when I was teaching an introductory course in anthropology. These absurd statements in the introductory texts sprang out at me, and I could immediately see a picture in my mind. The caveman, of course, is me. What would I do in that circumstance? How do you flute a projectile point--using a rhinoceros horn connected to a rhinoceros seemed like a perfectly plausible idea to me. How do human beings get the ideas to do some of the things they do? It was thinking about that in the introductory course that began getting me off on that track.

Q: Do you think about your Anthro.Notes readers' reaction to your work?

A: Yes, I think about it. I have tried to come up with something that would be humorous without being intentionally controversial or offensive, and almost inevitably I offend somebody. The whole basis of satire is exaggerating some distinctive characteristic that the owner would just as soon forget. I think I would be drawing different things if I were submitting them to the New Yorker, for instance, because there would be a little more latitude. One of the things I think is a problem with the field of anthropology is that we often take ourselves too seriously. I do like to poke fun at anthropologists, obviously, and Lord knows we

need some fun poked at us. When we lose our sense of humor I think we lose our complete perspective on any culture we are looking at, and we begin to believe we are near the TRUTH and that begins to approach something like paranoia to me.

Q: Has anyone else influenced your work or your interest in cartoons besides Walt Kelly?

A: Oh yes ... Ronald Searle, Robert Osborne, Al Capp ... dozens of others. Virgil Partch pen name VIP, creator of "Big George," was an important early influence. Trudeau's ("Doonesbury") ideas are extraordinary, but I am not crazy about his drawings. I am an assiduous reader of cartoon books. I have subscribed to the New Yorker for years, and I suppose I have a complete set of Kelly's books. I like Larson very much, have one hanging on my wall--wish I had done it. I met Gary Larson three years ago, and he gave me great encouragement. He told me about going down to the San Francisco Chronicle one day with six drawings, and they immediately bought them and he was on his way. It wasn't the 20 years of grinding away that you often hear from people such as George Booth, who is another favorite of mine. I think cartooning is the thing I enjoy most in life right now.

Q: Do you think there is room for more artistic expression in the field of anthropology?

A: Anthropology has provided an enormous wealth of subject matter for cartoons. I don't understand why there are not more novels, plays, etc. This is one reason why Colin Turnbull, who has introduced drama to the field, and I have become such close friends. I'd like

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stone points and the jaws and horns of large animals. What might explain this new type of site?

Experience with modern hunting and gathering San suggested a probable answer. Like large African carnivores, hunters use the edges of large seasonal waterholes as ambush sites, lying in wait at night for game behind circular brush or stone blinds. Pit fires are reduced to coals and covered over to provide warmth without visible light or smoke to scare away prey. In the past, larger pits were dug as traps in the soft earth at the water's edge and then concealed. One day, one of Brooks' own excavation trenches was used as a pit trap into which hunters chased a kudu and speared it. After butchering, the head (including jaw) and horns were the only parts left at the site. One of Brooks' students collected data on the efficiency of nighttime ambush hunting. Brooks then compared this with previous data on the meat yield of daytime stalking. Ambush hunting was six to seven times more efficient.

The lowest levels at the waterhole site are much older, around 80,000 to 100,000 years, and contain little direct evidence of blinds or traps. The environment and possibly the people were also different from those of the present. Can the present still illuminate the past? The great number of large spear points and teeth of difficult to stalk animals, like zebra, suggest that at this time, too, the water hole was mainly used for ambush hunting. This strategy would have been even more important since the poison arrows crucial to the present stalking tactics were apparently unknown. "Archeologists should be looking at the evidence of early human sites more in terms of ambush and kill sites than in terms of camps or home bases."

OLD TOOLS FOR MODERN PREY

Hoping to understand 12,000 year old behavior in North America, University of Wyoming professor and former Smithsonian Regents Fellow George Frison travelled to Zimbabwe's Hwange National Park last August in conjunction with a government supervised elephant culling operation. Frison hoped to observe wild elephant behavior to test his ideas about early hunting strategies and to test replicas of early North American stone tools against the hides and tendons of these huge animals. "The modern-day elephant is the closest available parallel to the extinct and ancestral mammoth that we know was hunted by early man," Frison explains.

In the 1970's Frison excavated the Colby site near Worland, Wyoming where at least seven mostly young mammoths were butchered about 11,200 years ago. Three Clovis points were found along with bone and stone tools among the densely piled bones, including a large front quarter of mammoth placed in the center of other bones. Frison thinks the entire ensemble, which would have been covered with snow and ice, was placed there as an "insurance" meat cache similar to those left by Eskimos.

In Zimbabwe, Frison found that most of the meat on an elephant is concentrated on the forequarters. His observations of wild elephant behavior gave him clues to a possible prehistoric hunting strategy which he feels has been misrepresented by modern artistic renditions showing early man spearing huge mammoths head-on.

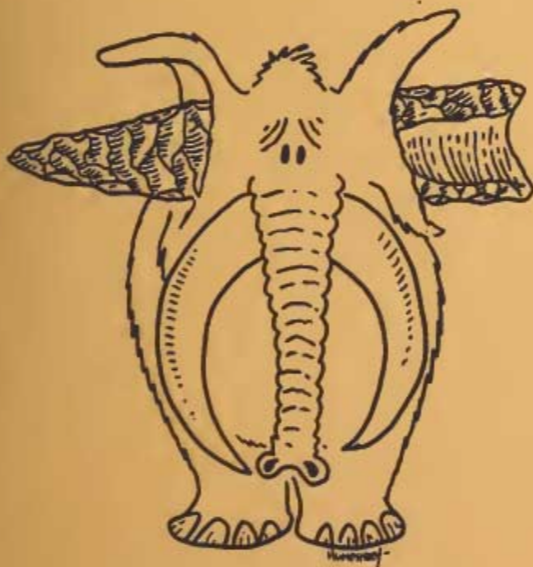
"A frontal assault on a family group would be hazardous in the extreme, but individual animals, often the younger ones, tend to wander and become isolated on the fringes of grazing areas. At that point they are vulnerable to a careful hunter." All this sheds light on the Colby site where a high percentage of the remains

were those of younger animals, and the 'stockpile' was largely composed of forequarters."

In his African research, Frison experimented with both tools and weaponry. He found that his stone tool butchering kit could pierce and skin the thick hides and dismember the huge carcasses more easily than expected. For skinning, Frison found quartzite flake tools superior to chert and much superior to large bifacial knives. With regard to weaponry, Frison commented, "One chert point I used, fixed to the haft with sinew and pine gum, reached the lung cavities of seven different elephants without the slightest damage. One that struck a rib lost part of its point, but could easily have been retouched for further use."

The new approaches which bolster George Frison's arguments, analyze Alison Brooks' ostrich eggshell, sort through Melinda Zeder's 100,000 bones, and identify Bruce Smith's domesticated seeds obviously come from very different sciences. While archeologists look to the past, they constantly utilize today's technologies and experimental methods in their search to uncover and explain human prehistory.

Ruth O. Selig



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to see anthropologists become more creative, to use the stuff of the discipline in new ways. Cartoons are a very immediate way of influencing people's ideas. If we can publish a book with some good credible information and illustrate it with cartoons, it might be a real boon. For some reason, the idea of popularizing the field has always been frightening to anthropologists. It is a shame because it's such an interesting field and enables you to encompass anything--be it psychology, medicine, bones and stones, or art.

Q: Has anthropology answered your questions concerning art?

A: Anthropology has expanded my perception about art and has enabled me to begin, at least, to ask the right questions, but I am not sure if I am going to find the answers any time soon. I hope not! I don't think anthropologists have yet explored creativity in art in the depth it deserves. Present studies are so specific and narrow, and yet here is a society that is producing art all around us all the time. Why do we call it art? What is art? Why this impulse to do art anyway?

The AAA has available five new excellent leaflets written by leading scholars: Anthropology and 'Scientific' Creationism, Evolution vs Creation: A Selected Bibliography, Evolution, Origin Myths, and The Record of Human Evolution. One copy of each leaflet is free with a self-addressed stamped envelope. Write to: AAA, 1703 New Hampshire Ave., N.W., Washington, D.C. 20009; (202) 232-8800.

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