In the Field

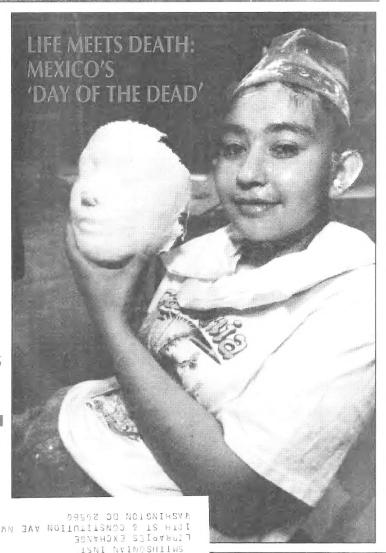
The Bulletin of the Field Museum of Natural History

September/October 199

A SILK ROAD IN SOUTHERN THAILAND

TANNING OUR HIDES

ANNUAL NEIGHBORS NIGHT & LATIN FEST





In the Field

The Bulletin of the Field Museum of Natural History

September/October 1991

3

Systematic Biology.

A million-dollar gift A establishes the Pritzisker Curatorship in re

A Maori co-curator is named to help restore our Maori meeting house.

5

Students from Chicago schools develop an exhibit on the "Day of the Dead."

19

How to tan your hide for the Field Museum's research collections.

A SUMMER CELEBRATION OF WORLD CULTURES

During the summer of 1991, visitors to the Museum met dancers and artisans from Irian Jaya, Buddhist monks from Tibet and India, acrobats from China, Maori dancers from New Zealand, musicians from Japan, dancers from Oaxaca, Mexico

Photos, Pages 4, 16-17



A SILK ROAD IN SOUTHERN THAILAND

By Bennet Bronson and Chuimei Ho Department of Anthropology

n February we finished the field phase of a project involving excavations at two sites in southern Thailand — Ko Kho Khao (KKK) and Laem Pho (LP), on either coast of the Kra Isthmus, the narrow "waist" of the Thai-Malay Peninsula — and visits to most other known ancient sites in that area. Funded in part by the National Geographic Foundation, the project was jointly sponsored by the Thai Department of Fine Arts and by Field Museum. We and our Thai colleagues now have a fairly clear idea of the meaning of what we found, so this seems a good time to present our findings to the Museum's members.

Except for a few fishermen's huts, neither

An unbroken sea route flourished for a thousand years, linking China and the Mediterranean — except for 50 years in the 9th century. Why?

site seems to have been inhabited before or since their heyday, the 9th century A.D. Yet they are unique in Southeast Asia, for they contain exceptionally large quantities of objects that originated in very distant places: China, India and the Middle East.

The goods in question include stone and glass beads, blown glass vessels, and glazed ceramics: Middle Eastern earthenware and Chinese stoneware and porcelain. Once there must have been other kinds of imported objects too. Precious metals, spices, perfumes, and especially textiles were important to early traders in all parts of the Old World — for instance, Chinese and Indian cloth constituted about 80 percent of the total value of goods imported to

Southeast Asia in the 17th century But no commodities as perishable as those could survive in the moist, salty sands that cover KKK and LP. So the ceramics, glass and stone are all that is left.

The question is, why should there be so much imported, presumably expensive material at those sites? Southern Thailand was not a rich area back in the 9th century. Its population was small, and it lacked the large, wealthy kingdoms known from other parts of early Southeast Asia. And yet KKK and LP were unusually rich in luxury goods. Why, then?

The apparent answer is that the inhabitants of the two sites were traders, not consumers, and that they imported their luxuries mainly in order to ship them onward to other places. Further, both KKK and LP imported and exported

exactly the same kinds of goods, even though they are located on opposite sides of the peninsula. Thus, it seems there were overland communications between them, and that each was one of the other's most important customers. It also



Siraf

PANDATAN

Bambhore

Canton

RUMA

Aden

Arabian

Soa

Mantal

Quillon

Manda

Remba

Prambanan

seems that each did much trading by sea with ports as far away as China and the Middle East.

> World's Greatest Trade Route

with distant places
is why we undertook
the project, for we
believed that both
KKK and LP might
have lain on the
great historical trade
route, the so-called
"Silk Road of the Sea," which

once linked the Far East with India, the Middle East, the Mediterranean and Africa, and which for more than a thousand years was the most important of the world's commercial arteries. The maritime silk road carried textiles (some of them indeed probably of silk), ceramics, metals, glass, spices, dyes, gems, and incense. Merchants, diplomats, and religious figures traveled along it, as did ideas, inventions, faiths, languages, and art styles. Between A.D. 500 and 1700, this greatest of trade routes had a major influence on the history of the world.

We were particularly interested in the possibility that in southern Thailand, between KKK and LP, the maritime silk route might have crossed dry land. Everywhere else

have crossed dry land. Everywher

— between Africa, the
Middle East and
India, between
India and Southeast
Asia, and between
Southeast Asia and
China — the route
lay entirely in the
sea. This makes the
traffic in goods and
ideas difficult for
archaeologists to study
unless they get lucky and
find a sunken ship of the right peri-

a sunken sinp of the right period. In southern Thailand, however, it seemed we might have the equivalent of many sunken ships. Any large vessel reaching either coast would have had to be unloaded and the trade goods in it transferred onto small boats or the backs of animals. The goods would have had to be carried to the other side of the peninsula, then reloaded onto other ships of seagoing size. By looking for the remains of the many objects that were bound to be broken and discarded during these transfers, we would be able to get a good idea of the kinds of non-perishable merchandise the ships were carrying.

We soon became convinced that our basic hypothesis was correct. Our systematically col-

Above left, sherds of Changsha pottery from central China, bearing designs intended to look like Arabic script — apparently aimed at a Middle Eastern market. Above right and below, fragments of pottery from Guangdong Province in southern China.

Center, researchers uncover the remains of a low building at Ko Kho Khao.

FAMILY MATTERS



By Willard L. Boyd President, Field Museum

nlike Tennessee Williams's heroine, the Field Museum depends for
its prosperity not on the kindness of
strangers but on the generosity of
our family and friends. Fortunately, our tribe is
increasing, and has become increasingly generous.

In a report to the Board of Trustees in August, our Vice President for Development and External Affairs, Willard E. White, noted that private gifts to the Museum for operations reached an all-time high of \$2.1 million in 1990, and that total giving by private sources, at \$9.4 million, was second only to 1988, the peak year for collections from the last capital campaign.

Gifts for special purposes, such as preparing exhibitions and updating our laboratories, are very important. But we are especially in need of unrestricted support—the money that keeps the doors open, the halls swept, and the lights on. I'm gratified not only by the amount of unrestricted funds donated in 1990 — an impressive 11 percent more than in 1989 — but also by the number of people contributing.

Sixty-five percent of the \$2.1 million in unrestricted giving last year came from individuals and family foundations. This proportion was up from about 55 percent in previous years. Corporations accounted for 23 percent and private foundations for 12 percent. The change is due primarily to a large increase in

the number of individual contributors. The Museum's biennial report for 1989-90, *Understanding Diversity*, and a companion booklet, *The Field Museum Donor Groups*, which have just been published, list nearly 4,000 donors in all categories, up from about 3,300 in the 1987-88 biennial report, an increase of more than 20 percent. Even more dramatic is the rise in the number of contributors of unrestricted funds: some 2,300 for 1989-90, as against about 700 for 1987-88 — an increase of 228 percent.

Expanding the Museum family has been a major objective in recent years. To complement the Founders' Council, the premier donor group, we have created four new groups to recognize the annual contributions of those who donate beyond basic membership and involve them further in the Museum's activities.

In addition, to encourage the spirit of service to the Museum so well exemplified by the Women's Board, which is now celebrating its 25th anniversary, we are actively soliciting the participation of members in "friends" groups that reflect their particular interest in one or another aspect of the Museum's scientific and educational activities.

The Outreach Council has been supporting the Museum's programs of outreach to innercity communities for several years now. The Friends of Ruatepupuke II, which formed after a members' tour to New Zealand, have worked to keep alive and warm our relationship with the Maori family with whom we have formed a partnership to restore and rededicate the Muse-

um's Maori meeting house. (See page 4.) The Friends of Field Museum Library have helped our library acquire important books that would otherwise have been out of budget, and to foster an interest in natural-history book manufacture, publishing, and collecting.

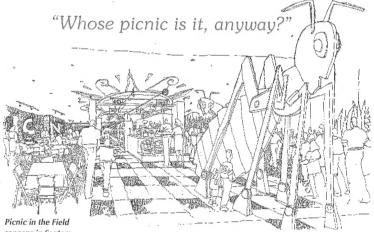
We are now launching a fourth group, the Collections Committee, which will focus on the Anthropology Department's outstanding collections of 19th- and 20th-century objects. Under the leadership of co-chairs Louise and Jim Glasser, Chicago-area collectors and others interested in African, Asian, Oceanic, and indigenous American art and ethnography will be able to meet with each other and with the Museum's experts for stimulating discussions, lectures, and visits to private collections. Jonathan Haas, our Vice President for Collections and Research and Curator of New World Archaeology, serves as the Collections Committee's advisor.

We are eager to enlarge our family. We want to serve our members as well as possible, and those who have special interests in the Museum's work that might be the basis for similar friends groups are encouraged to contact us with their suggestions.

BIENNIAL REPORT

nderstanding Diversity, the Museum's biennial report for 1989-90, is now available to members. The report focuses on Field Museum curators' research in systematic biology and on the Museum's efforts to promote understanding and respect among different cultures.

To obtain a copy, write to the Membership Department, Field Museum of Natural History, Roosevelt Rd. at Lake Shore Dr., Chicago, Illinois 60605.



Picnic in the Field reopens in September with a dramatic new look and an expanded menu. Plus some rather unusual diners.

In the Field

September/October 199*

Editor: Bon Dorfman

Art Director:

Editorial Assistant:

In the Field (ISSN #1051-4546) is published bimonthly by Field Museum of Natural History, Roosevelt Road at Lake Shore Drive, Chicago IL 60605-2468. Copyright © 1991 Field Museum of Natural History. Subscriptions \$6.00 munally, \$3.00 for schools. Museum membership includes in the Field subscription. Opinions expressed by authors are their own and do not necessarily reflect policy of Field Museum. Unsolicited manuscipts are welcome. Museum phone (312) 922-9410. Notification of address scharge should include address label and should be sent to Membership Department. POSITASTER: Send address charges to In the Field, Field Museum of Natural History. Second class postage paid at Chicago, Illinois.

ON WITH THE SHOW

Mary Kay Eyerman (left), co-chairman of the Women's Board Fashion Show, and Paula Trienens, president of the Women's Board, meet with Gary Witkin, executive vice president of stores for the Dayton-Hudson Corporation, to plan the September 6 benefit at Marshall Field's in celebration of the Women's Roard's 25th anniversary. (Not pictured is Marianne Cruikshank, Fashion Show cochairman.)



ERRATUM

The dating and phylogenetic affinity given for Peking Man in Ron Dorfman's article "Who Are We to Neanderthal, or He to Us?" (July/August 1991, p. 1) are in error. The youngest Peking Man remains from the Zhoukoudian site are probably about 200,000 years old, not 50,000 years. While this would likely have made late Peking Man a contemporary of some European Neanderthals (and their Asian equivalents), the Zhoukoudian fossils are usually assigned to *Homo erectus*.

PRITZKER CHAIR IN BIOSYSTEMATICS

he Pritzker Foundation has announced a gift of \$1,050,000 to enhance the Field Museum's research in biosystematics. In recognition of the gift, the Museum will establish an endowed chair, the Pritzker Curatorship in Systematic Biology.

The Pritzker Foundation is a private foundation with a long history of support for higher education, basic medical research, excellence in architecture, environmental engineering, and selected cultural organizations. Robert A. Pritzker is a member and former chairman of the Museum's Board of Trustees.

The Foundation, which has supported the Museum for many years, takes a special interest in the Museum's position as an international center for collections-based scientific research

Biosystematics is the branch of evolutionary biology concerned with describing biological diversity, defining relationships among the world's flora and fauna, and revealing the patterns and processes of change at work in natural systems. This discipine is "at the very core of the Field Museum's research program," said Jonathan Haas, Vice President for Collections and Research. He added:

"Everywhere we look in biology we see the importance of systematics — take ecology, taxonomy, agriculture, and medicine, for example. Making biological inventories, identifying species, studying natural variation, and determining evolutionary relationships are integral components of biosystematics and these form the foundation of all modern biology."

These have been fundamental activities in biological research since the time of Darwin and before. Today, however, Field Museum scientists using highly sophisticated technology can examine their specimens and ask questions of their data in ways that prior generations of researchers could not have contemplated.

New techniques, for example, permit genetic analysis of DNA extracted from small pieces of tissue, including dried or alcohol-preserved tissues, and in a rare instance, the Field Museum laboratories have been able to sequence DNA from a 20,000-year-old leaf fossil. The Museum's new Superconducting Cryogenic Magnetometer has increased by a factor of 100 the sensitivity of measurements that can pinpoint the time and place on the globe that a piece of fossil-bearing rock was formed. The Scanning Electron Microscope has enabled Field Museum scientists to study the pollen grains in hundred-million-year-old fossil flowers and propose a new theory of the early evolutionary rise of the flowering plants.

Haas said the endowed curatorship would play a pivotal role in focusing the Museum's research program on the investigation of critical evolutionary and ecological relationships around the world.

The Museum's scientists, Haas said, "are committed to pursuing the highest standards of excellence in basic scientific research and the training of future generations of scholars. The Pritzker Curator of Systematic Biology will serve to stimulate cross-disciplinary collaborations among the Museum's faculty, foster inno-

tions among the Museum's faculty, foster innovative research in biosystematics, and encourage use by outside scholars of the Museum's biochemical research facilities as well as our systematic collections."

Haas said the Pritzker Curator would be named soon. "The Museum is eager to recognize one of its own outstanding scholars in evolutionary biology with this distinguished named position," he said. "This special honor for academic achievement at the Field Museum will pay fitting tribute to the exceptional generosity of the Pritzker Foundation. The curatorship further confirms the Foundation's commitment to promoting basic scientific research in the United States."



'WINDOW OF OPPORTUNITY' FOR DONORS OF COLLECTIONS

nly a few months remain in the "window of opportunity" created by Congress for potential donors of collections and other tangible property to cultural institutions. Favorable tax treatment of such donations ends on December 31.

Over the past few years, the number of gifts of valuable collections to such institutions, including the Field Museum, has declined. Last year, representatives of the cultural community managed to convince Congress that the decline was a result of the alternative minimum tax (AMT), a provision of the 1986 Tax Reform Act which limited tax incentives for certain individuals (depending on income) to make gifts of tangible property. After much debate, Congress restored the previous tax incentives — for one year only, 1991.

During this year, donors who are subject to the AMT can nevertheless deduct the full fair market value of their gift and realize significantly larger tax savings than would otherwise be possible.

Great collections have formed the foundation of the Field Museum for nearly a century, and the Museum's holdings are currently estimated at about 20 million ethnographic artifacts and scientific specimens. While many of these objects were gathered by the curatorial staff and other researchers during expeditions throughout the world, many others were donated by private collectors.

Not unlike this museum, individuals and families collect and pass on wonderful objects of artistic, historical, or scientific value. The objects may provide a lifetime of pleasure for collectors interested in delving into their scientific or cultural context. Many people want their collections to be preserved and shared with scholars and students of this and future generations, who might also study and appreciate them. To ensure this, these individuals donate their valued objects to the Field Museum's renowned research collections.

The Museum wants to keep this option open and attractive for private collectors, and is working with other institutions to persuade Congress to make the 1991 tax exemption permanent. But there's no indication at this point that the effort will be successful. People who have property they wish to donate, or who are only considering such a gift, are encouraged to contact Melinda Pruett-Jones, the Museum's director of major gifts and estate planning (312/322-8868), who will answer questions and provide additional information on gift

options for collections of value.

Those who have questions about how or whether the 1991 provision applies to their particular tax situation should contact their own professional financial advisor soon.



Boxing promoter



with her friends Richard M. Daley (fourth Homo sapiens from left) and Miss Illinois (the one with the crown). Later on State Street, she did something they don't do on Broadway with this Pisces hunk from the Shedd Aquarium.

As a new benefit of Museum membership, you can have Dolores or her colleague Danny Dinosaur (your choice) send birthday greetings to anyone in your family. They'll need a week's notice, which you can give by calling (312) 922-9410, ext. 453, with the pertinent information (including your membership number).



Buddhist monks from the Dalai Lama's monastery at Dharmsala, India spent most of June at the Museum creating the intricate Kalachakra sand mandala known as the Wheel of Time. On June 29, 350 visitors listened to the final chants and watched as each of 722 deities was removed from the mandala; gasped as Tenzin Chogyal and Thupden Wangyala swept the brilliantly colored sand into a pile; then walked to the shore of Lake Michigan to observe the offering of the mandala for the benefit of all marine life, the environment, and world peace.

PLANNING RENOVATION OF RUATEPUPUKE II

rapata Hakiwai, curator of Maori col-

lections at the National Museum in Wellington, New Zealand, has been Museum's Maori meeting house, which will be renovated for display and use as part of a planned Asia-Pacific Resource Center. (See In

named co-curator of Ruatepupuke II, the Field



the Field, July/August 1991, p. 2.)

During meetings at the Field Museum July 29 to August 6, Hakiwai and eight other Maori elders of the Tokomaru Bay community where the house once stood sketched out the renovation process with Museum staff.

Starting in January, two Maori interns will join the Museum's conservation department, working with Catherine Sease, head conservator, to dismantle the building and assess needed repairs and replacements. Depending on the results of that assessment, reassembly could start as early as June 1992. Maori artists will create authentic new work to replace damaged or introduced elements.

Right, Arapata Hakiwai makes notes on the condition of Ruatepupuke II. Above left. John Koten, Ameritech's senior vice president for corporate communications, is welcomed to the meeting house by Mrs. Iranui Haig

(left) and Mrs. Hine Babbington. Below, Catherine Sease and Hakiwai examine a photograph of Ruatepupuke II in its original setting.

Carolyn Blackmon, chair of the Museum's Education Department, is the project developer. John Terrell, the Museum's curator of Oceanic archaeology and ethnology, will serve as cocurator with Hakiwai. The other members of the Maori delegation were:

Phil and Doris Aspinal of Tokomaru Bay; Mrs. Hine Babbington of Bisbourne; her daughter and son-in-law, Huia and Deanna Bennett, of Auckland; Mrs. Iranui (Ada) Haig of Tokomaru Bay; Ben Pewhairangi of Tokomaru Bay, a member of the New Zealand Historic Preservation Trust; and Cliff Whiting of Russell, N.Z., conservator and chairperson of Te Waka Toi, the Maori and Pacific Arts Council.



CALENDAR OF EVENTS

A JOYFUL 'DAY OF THE DEAD'

group of seventh- and eighthgraders from Chicago public schools, working with Field Museum Education Department staff members, have created an exhibit that captures the spirit of one of Mexico's oldest celebrations, the Day of the Dead festival. The exhibit opens Sunday, September 8 in the Webber Resource Center on the first floor and continues through December 8.

The exhibit, titled "Life Meets Death: Mexico's 'Day of the Dead,'" recreates the traditional festival in which the living pay their respects to those who have passed on. The Field Museum museology course in which the students were enrolled is co-sponsored by the Chicago Public Schools' Off-Campus Program and a U.S. Department of Education Jacob Javits Grant. The 16 young people who worked on the exhibit, whose families came from Mexico, Guatemala, and Bolivia, attend seven different Chicago schools. Museum staff members Mau-

reen Herencia and Rosaura Boone directed the course.

The Day of the Dead festival, which takes place on the first two days of November every year, has endured through all of the many transformations that Mexico and its people have undergone. Not only has the tradition survived, but it has flourished anew, adapting elements of contemporary Mexican culture and assimilating them with the old.

The ancient indigenous peoples of the region did not live in fear of death. Instead, they accepted death as another fact of life and even celebrated it. In fact, two months of their ancient calendar were dedicated to joyful festivals honoring the dead.

However, when the Spaniards conquered Mexico, bringing with them Christianity and the horrors of Hell, the image of death was transformed. Death bounced back, however, and although it took more than two hundred years, by the 1700s the Mexican people began to revive many of their ancestral practices in a Christian context. The harsh, ruthless perception of death slowly began to fade, giving way to the kinder, more gentle view of death that had long held sway in that region of the world. Death and dying once again became the subjects of songs, poetry, murals, and other art.

Ironically, the bloody Mexican Revolution of 1910 added yet another twist to the way the Mexican people looked at death — humor. Faced with loved ones dying day after day in gruesome fashion, Mexicans turned to laughter to help them get through that horrible time. A new literary form, calaveras, which literally translated means "skulls," became immensely popular around this time. These short verses poke fun at death, and often involve political commentary and satire as well.

The exhibit at Field Museum will show





many of the most important aspects of Day of the Dead festivals, including an altar dedicated to a deceased person. Such altars have always played a big part in Day of the Dead celebrations. People build them in their houses and stock them with religious items, personal objects of the deceased, and even food for the spirits to snack on. The students planning the exhibit decided to dedicate their altar to Maclovio Samuel Gómez Pérez, a fictional grandfather that the group has created using characteristics of their real grandfathers who have passed away.

Also featured in the exhibit is a cemetery. A trip to the cemetery is probably the oldest and most important activity associated with "Day of the Dead" festivals. While in some places families go on their own to clean up graves and leave flowers and food offerings, other towns have splendid parades to the cemetery with the whole town taking part in festivities. It is not a time to weep by the graveside; instead, people socialize, eat food, and pray for the spirits of their loved ones.

There's also a Mexican street fair with food booths, symbolic paper cut-outs, sugar skulls, comic skeletons, and other articles that serve to remind people not to take death, or life for that matter, too seriously.

- Steve Crescenzo







FIELD MUSEUM
THE SMART WAY TO HAVE FUN

WE'RE GONNA TAKE YOU ... INTO THE WILD



Coming soon to your favorite museum: a major new thematic exhibit, "Into the Wild: Animals, Trails & Tales," opening November 9 in the new Daniel F. and Ada L. Rice Wing. The exhibit features a Nature Walk that will take you on guided trails north to Tierra del Fuego.

FLORA PORTRAYED: CLASSICS OF BOTANICAL ART

"Flora Portrayed: Classics of Botanical Art from the Hunt Institute Collection" continues through December 1 in the South Gallery. The 88 drawings and paintings of plants and flowers include works by the most important specialists in the field from the 16th century to the present day. Among the artists represented are Pierre-Joseph Redouté, "the Raphael of the Rose," who was commissioned by Josephine Bonaparte to document the gardens at Malmaison; and Franz Bauer, famed for his work in the Royal Gardens at Kew, England.



James Balodimas / GN85896.2

SEPTEMBER/OCTOBER EVENTS



9/14 Saturday Neighbors Night

Third annual free open house featuring a wide variety of exciting family activities. Free bus transportation for residents of Chinatown, Auburn-Gresham, Englewood, West Englewood, Pilsen, South Shore, and South Chicago.



9/8Sunday
Exhibit Opening:
'Life Meets Death'

In the Webber Resource Center, through December 8. (See overleaf.)

9/9 Monday

Camera Club

The Nature Camera Club of Chicago meets in Lecture Hall 2 at 7:30 p.m. the second Monday of each month. This meeting features a slide presentation by Field Museum botanist William Burger on a bicycle tour through China.

legic creatures. Includes diposaur provies and exploration of the many theories burrounding their extinction.

colebration of dinosaurs and other prehis-

Dinosaur Festival

10/10-13

Courtesy of Ranger Rick's NatureScope

9/11 Wednesday
Cave Biology

The Windy City Grotto of the National Speleological Society meets at 7:30 p.m. Use West Entrance.

10/14 Monday
Camera Club

The Nature Camera Club of Chicago features a mini-program on "textures" as well as a slide competition and judging of land-scapes and seascapes.



Celebración

Celebrate the heritage of Latin American cultures. Brazilian carnaval, Mexico's Day of the Dead, Mayan math, games of Peru, mural painting, storytelling, music of many countries, and much, much more.

10/26 Saturday Family Overnight

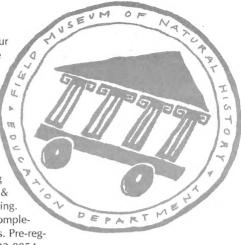
Bring the kids and sleep among the mummies after a night of exploring the Museum in a different light. \$30 for adults, \$20 for children. Call 322-8854.

Programs Field Trips September - November 1991



reetings

Summer is drawing to a close and pleasant memories of the past months frequent our thoughts. With autumn fast approaching, more opportunities are available to have fun. Observe migratory birds at Jasper-Pulaski Wildlife Area or enjoy fall colors on a fall forest hike. We are pleased to host two guest speakers this fall. To highlight our Prehistoric Weekend, Dr. Philip Currie of the Tyrrell Museum of Palaeontology will present a lecture on October 11. James Burke, Public Broadcasting System personality from Great Britain will visit the Museum in November. For adults, we have several new courses. Introduction to the Cultures of Mesoamerica, Gems and Crystals, and Plants of the Pacific are just a few of our new classes that reflect Museum exhibits. For children and families, Elephants Never Forget and Masks and Masquerades are two fun fall workshops. During November, join us to celebrate the opening of "Into the Wild: Animals, Trails & Tales," the Museum's newest exhibit, located in the Daniel F. and Ada L. Rice Wing. Three noted Field Museum scientists will present Saturday afternoon lectures to complement this event. A busy season lies ahead with classes, trips and lectures for all ages. Pre-registration is required and space is limited. If we can be of any assistance, call (312) 322-8854.



Julie Collins

Julie Collins
Program Developer
Adult Family and Ch

Adult, Family and Children's Programs

Children's Workshops

Elephants Never Forget Karen Grupp, Instructor

Because of their great strength and intelligence, people can train elephants to do everything from heavy lifting to performing in the circus. Learn the difference between Asian and African elephants, feel the texture of real elephant hide and discover other fun facts about the world's largest living land animal. Make a paper elephant to take home.

CC91048, Grades K - 1 Saturday, October 12, 10:00 a.m. - noon \$12 (\$10 members)

Dynamic Dinosaurs

Peter Laraba, Geology Specialist, Education Department, Field Museum

Return to the time when dinosaurs roamed the Earth. Learn about Diplodocus, Stegosaurus, Triceratops, and Tyrannosaurus Rex. Discover how you compare in size to a dinosaur and make a dino-puppet of your own to take home.

CC91049, Grades 1 and 2 Saturday, November 2, 10:00 a.m. - noon \$12 (\$10 members)

Pacific Adventure

Katie Kinney, Program Developer, Education Department, Field Museum

Set a course for fun as you explore the Pacific Islands! Learn about ocean-going canoes, navigation and Pacific Island culture. Try your hand at games like Poi Balls and String Figures and play musical instruments made from gourds and shells. Dress up in traditional Hawaiian Island clothing. Be there...Aloha!

CC91050, Grades 4 - 6 Saturday, October 12, 10:00 a.m. - noon \$12 (\$10 members)

Secrets of an Alien World

Betsy Starinchalk, Technical Assistant, Division of Insects, Field Museum

There is an alien world right at your feet! Enter the realm of insects and learn about some of the Earth's most fascinating creatures. Discover why and how scientists study insects and take a behind-the-scenes tour of Field Museum's insect collection. Learn how to start your own insect collection.

CC91051, Grades 4 - 6 Saturday, November 2, 10:00 a.m. - noon \$12 (\$10 members)

Programs Previously Listed— Space May be Available

What Makes a Fish a Fish?

CC91044, Grades 5 and 6 Saturday, September 21, 10:00 a.m. - noon \$12 (\$10 members)

Terrific Teeth

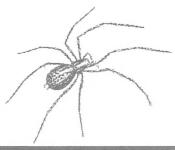
CC91045, Grades 4 - 6 Saturday, September 21, 10:00 a.m. - noon \$12 (\$10 members)

Nature Sketchbook

CC91046, Grades 5 and 6 Saturday, September 21, 1:00 - 3:00 p.m. \$12 (\$10 members)

Northwest Coast Totem Poles

CC91047, Grades 1 and 2 Saturday, September 28, 10:00 a.m. - noon \$12 (\$10 members)





Adult-Toddler Workshop

Wings and Things

Patty Messersmith, Educational Consultant

Have you ever wondered how birds build a nest or find food? Adults and toddlers will discover fascinating facts about birds. Construct a nest, make a bird feeder, and create a special bird puppet to take home.

FA91056, Adults and 3 and 4 year olds Saturday, October 19, 10:00 - 11:00 a.m. \$12 (\$10 members) for 1 parent and 1 child

Family Overnight

Have you ever seen an African elephant by flashlight at one o'clock in the morning? Have you ever strolled through an Egyptian mastaba in the dark? If you haven't, then you should come to a Family Overnight at Field Museum! Overnights give families (parents and children grades 1-6) a chance to see the Museum in a way they never have before. In addition to viewing our exhibits after hours, Overnights include natural science workshops, an evening snack, a storytelling or musical performance, flashlight tours and a continental breakfast in the morning. Don't miss the fun!

CCON008, 5:45 p.m. Saturday, October 26 to 9:00 a.m. Sunday, October 27 \$30 per adult, \$25 per child

Family Workshops

Please note: Family workshops are intended for families to take together. Children must be accompanied by an adult and adults must be accompanied by a child.

The Case of the Mummy Candace Minks, Instructor

Ancient Egyptians were skilled artists and craftsmen. Tombs and temples were decorated with colorful paintings and carvings. A wooden mummy case, or sarcophagus, displayed a carved portrait of its owner and many hieroglyphs (Egyptian writing symbols). Learn about mummies on a tour through the Museum's "Inside Ancient Egypt" exhibit and trace your body on paper to design a mummy case of your own.

FA91057, Parents and Children Grades K - 4 Saturday, October 12, 10:00 a.m. - noon \$9 per participant (\$7 per member participant)

Growing-up Pawnee

Mary Ann Bloom, Coordinator of Interactive Exhibits, Education Department, Field Museum

Visit the Pawnee Earth Lodge to discover how Pawnee Indian boys and girls lived many years ago. Learn about the toys they played with and the daily chores they performed. Listen to the mystical story of the mud pony and make your own clay toy horse.

FA91058, Parents and Children Grades K - 1 Saturday, October 19, 1:00 - 3:00 p.m. \$9 per participant (\$7 per member participant)

Museum Safari

Mary Ann Bloom Coordinator of Interactive Exhibits, Education Department, Field Museum

Families, explore Field Museum with a new twist as you discover a variety of natural science exhibits through the fun of games for all ages. Treasure hunt, measure-a-dino, color match, and make-a-menu are just a few of our museum safari activities - don't miss out!

FA91059, Parents and Children Grades K - 2 Saturday, October 19, 10:00 a.m. - noon \$9 per participant (\$7 per member participant)

Masks and Masquerades

Lea Atiq, Mask Artist

People have made masks for over 30,000 years and they can be found on almost every continent and island on Earth. Why is masking so Why are masks worn on universal? Halloween? Learn the answers to these questions and see a variety of masks from different cultures. Mold a mask of your own to take

FA91060, Parents and Children Grades K - 4 Sunday, October 27, 10:00 a.m. - noon \$9 per participant (\$7 per member participant)

Recycle It! Reuse It!

Alexia Trzyna, Division Head. Visitor Programs, Education Department, Field Museum

Don't throw that away! Recycle it and reuse it! Parents and children will work together to create a birdfeeder from a plastic liter pop bottle, make new writing paper from old newspaper, and learn how to start a compost pile for gardening. See how easy it is for your family to start a household recycling program.

FA91061, Parents and Children Grades K - 4 Sunday, October 27, 10:00 a.m. - noon \$9 per participant (\$7 per member participant)

Programs Previously Listed-Space May be Available

Wild Wetlands

FA91051, Parents and Children Grades K - 4 Saturday, September 21, 10:00 a.m. - noon \$9 per participant (\$7 per member participant)

The Family Puppet Tree

FA91052, Parents and Children Grades K - 3 Saturday, September 28, 10:00 a.m. - noon FA91052, Parents and Children Grades 4 - 6 Saturday, September 28, 1:00 - 3:00 p.m. \$9 per participant (\$7 per member participant)

Adult Courses

Monday

Introduction to the Cultures of Mesoamerica

Maureen Herencia, Anthropology Specialist, Education Department, Field Museum

Discover the ancient peoples of Mesoamerica, the cultural area located in what today is Mexico, Guatemala, Belize, Honduras and El Salvador. These diverse, complex cultures built great cities, had sophisticated sacred calendar systems and well developed trading networks throughout the area. Lectures by guest speakers, discussions and visits to the Museum's exhibits, will lead you to explore cultures of Mesoamerica including the Aztecs, Mayans and Olmecs. Topics will cover geography and biology of the area, history, social structures, art, religion and trade.

AC91032, Mondays October 14 - November 18 (6 sessions), 10:00 a.m. - noon \$60 (\$48 members)

Drawn "Into the Wild"

Lori Grove, Scientific Illustrator

The opening of the Museum's newest exhibit, "Into the Wild: Animals, Trails & Tales", provides a unique setting where you can learn the basics of scientific illustration. Scientific reference, design style, and technical practice are components of successful drawings used for exhibits or research. Using the recreated habi-tats from "Into the Wild" as models, you will develop sketches and work on a final inked illustration. Some drawing experience is recommended. Bring a pad of tracing or parchment paper; other materials supplied.

AC91033, Mondays November 11 - 25 (3 sessions), 7:00 - 9:00 p.m. \$35 (\$30 members)

Tuesday

Plants of the Pacific

Thomas G. Lammers, Assistant Curator, Botany Department, Field Museum

Join us as we expand upon the plant life represented in Field Museum's "Traveling the Pacific" exhibit. A major theme will be the wonderful diversity of flowering plants found on the archipelagoes and high islands of the Pacific Ocean, with special emphasis on the Hawaiian Islands and the Robinson Crusoe (Juan Fernandez) Islands. The geological, ecological, and cultural factors that have shaped the floras of these islands will be discussed. Special attention will be given to conservation issues in the Pacific, where many plants have become extinct or are threatened species, and to uses of plants by native peoples. The material covered would make a trip to the Pacific more meaningful and enjoyable.

AC91034, Tuesdays October 15 - November 19 (6 sessions), 7:00 - 9:00 p.m. \$60 (\$48 members)

Hatha Yoga Intermediate/Advanced Syamalan Nair, Yoga Master

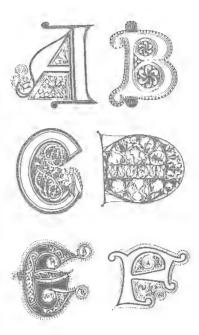
Hatha yoga is one of the most scientifically proven ways to achieve inner harmony and peace. Further develop your physical postures, breathing exercises, relaxation and meditation techniques. Learn and practice advanced yoga exercises. More than mere physical fitness, yoga is a complete mind-body system for life-long wellness.

AC91035, Tuesdays October 15 - November 19 (6 sessions), 7:00 - 9:00 p.m. \$55 (\$45 members)

Ancient Egypt: Archaic Period and Old Kingdom Frank Yurco, Egyptologist

This course will focus on the Archaic Period and Old Kingdom in Egyptian history. The development of the pharaonic state and its institutions will be studied. Class readings and discussions will focus on selected autobiogra-phies and the Pyramidal Texts. The Fifth and Sixth dynasties, decentralization of the state and the Egyptian penetration of Nubia will be covered. A visit to Field Museum's "Inside Ancient Egypt" exhibit will complement slide illustrated lectures and in-class discussions.

AC91036, Tuesdays October 22 - November 26 (6 sessions), 7:00 - 9:00 p.m. \$60 (\$48 members)



The Chronology of Calligraphy: Black Letter

April R. O'Connor, Art Teacher / Calligraphy Instructor

Scribes wrote important documents and copied books in Egypt, Greece and Rome using the Gothic, Old English, or Black Letter alphabet lettering styles. These writing styles were widely used during the 12th through 15th centuries in both churches and courts throughout Europe. Participants will learn how to write the black letter styles and the history of illuminated manuscripts. No previous calligraphic experience required. Materials will be supplied by the participant (for an approximate cost of \$10) and will be discussed at the first class session

AC91037, Tuesdays November 5 - December 10 (6 sessions), 7:00 - 9:00 p.m. \$60 (\$48 members)

Wednesday

Egyptian Magic Kathleen Picken, Historian

The ancient Egyptians used the word "magic" to describe their explanations of how the world worked. They were practitioners of ancient Egyptian magic and it permeated every aspect of their life. Explore the ancient Egyptian deities and the powers they were thought to have had on the living and the dead as we discuss the curses, charms, and magical roles of various gods and goddesses. Temple symbolism, funerary magic, and mummification rituals will also be examined.

AC91038, Wednesdays October 2 - November 6 (6 sessions), 7:00 - 9:00 p.m. \$60 (\$48 members)

Qualities and Properties of Wood Paul Shank, Furniture Conservator

Whether you are an amateur hobbyist, professional wood worker or collector of fine antiques, it is important to have a basic understanding of wood. Following a thorough overview of the types and properties of wood, important technical and aesthetic characteristics will be highlighted. Practical consideration will be given to the design and production of new pieces, the selection and appreciation of diverse antique objects, and the restoration and conservation of damaged goods.

AC91039, Wednedays October 9 - November 13 (6 sessions), 7:00 - 9:00 p.m. \$60 (\$48 members)

Drawn from Nature

Sonya Baysinger, Freelance Artist

Come to Field Museum and learn the basic elements of drawing. Using natural subjects for inspiration, beginning and intermediate level students will become acquainted with the foundations of black and white sketching and twodimensional techniques. Each class includes lecture, demonstration, and workshop time. A supply list will be distributed and discussed at the first class. Supplies will be provided for an introductory exercise the first day; estimated cost of supplies is \$25.

AC91040, Wednesdays October 9 - November 13 (6 sessions), 6:30 - 9:00 p.m.

AC91041, Fridays October 11 - November 15 (6 sessions), 9:00 - 11:30 a.m. \$60 (\$48 members)

Asteroids and Aristotle: Extraterrestrial Collisions and Natural History

Robert Kiely, Ph.D. candidate, Northwestern University

Current theory suggests that a large extraterrestrial body collided with the Earth sixty-five million years ago. The impact may have resulted in the extinction of a significant portion of the Earths' living species. Examine the history of the impact theory and its effect on tradition al notions of natural history—with roots in the thoughts of Plato and Aristotle.

AC91042, Wednesday, October 23 (1 session), 7:00 - 9:00 p.m. \$12 (\$10 members)

"Into the Wild: Animals, Trails & Tales," A Narrated Expedition Paul Baker, Program Development,

Field Museum

Explore Field Museum's newest permanent exhibit "Into the Wild: Animals, Trails & Tales." All of the elements in planning, preparing and producing this new exhibit will be described and you will have an opportunity to compare dioramas and taxidermy techniques from the large of the production. from the late 1800s through today. Take a closer look at the renowned dioramas and specimens which were the first collected by Field Museum. The exhibit, which contains numerous endangered species, focuses on changing animal habitats, and features the Field Museum's rare animal collections.

AC91043, Wednesday, November 13 (1 session), 7:00 - 9:00 p.m. \$10 (\$8 members)

Friday

Drawn from Nature

Sonya Baysinger, Freelance Artist

Please see full description under Wednesday listing - you may register for the course on Wednesday evenings or Friday mornings.

AC91041, Fridays October 11 - November 15 (6 sessions), 9:00 - 11:30 a.m. \$60 (\$48 members)

Papermaking with Plants

Phyllis Nelson, Papermaking Instructor

Cultures around the world have used a variety of plant fibers and techniques for making paper. During our day-long workshop, experience the diversity of papermaking through a background discussion and viewing of paper samples such as papyrus and abaca. Explore all the steps of papermaking — from making pulp to uses for the finished paper. Workshop time to make your own paper using local and exotic fibers such as cattail and kozo will follow. Materials are provided; please bring a tray or cookie sheet to take your wet paper home. Register for Friday's or Saturday's workshop.

AC91045, Friday, November 1 AC91046, Saturday, November 2 (1 session), 9:00 a.m. - 4:00 p.m. \$48 (\$40 members)



Thursday

Ancient Egyptian Hieroglyphs: Grammar Frank Yurco, Egyptologist

This course introduces ancient Egyptian language and hieroglyphic grammar. Emphasis will be placed on word building and grammar, especially nouns, adjectives, pronouns, and prepositions, and grammatical constructions using these elements. Grammatical constructions will be practiced in class. The course prerequisite is either Ancient Egyptian Calligraphy (offered at Field Museum) or prior experience with ancient Egyptian hieroglyph-

AC91044, Thursdays October 17 - November 21 (6 sessions), 7:00 - 9:00 p.m. \$60 (\$48 members)

Saturday

Introduction to Gems

Tedd Payne, Gemologist

Gems are intriguing; dull pieces of mineral matter can be cut, polished, and transformed into beautiful glowing gems. The underlying rock type and climate largely determines the gem minerals found in different parts of the world. Focusing on diamonds and gem stones, learn what makes a stone a gem, see what gives it color, and distinguish between gems that are similar in appearance. The course is intended for beginning collectors and curious observers. You may be interested in the following new course, Gems and Crystals, to further your study.

AC91047, Saturday, September 28 AC91048, Saturday, October 12 (1 session), 9:00 a.m. - 5:00 p.m. \$50 (\$40 members)

Gems and Crystals

Tedd Payne, Gemologist

Crystal properties give many gems their beautiful and fascinating characteristics. Find out what a crystal is, which gems are crystals, and how being a crystal can affect the color and other properties of a gem. See the relationship between the shapes of uncut and polished gems and their crystal structure. Using these proper-ties, learn how a gemologist identifies and distinguishes between natural and synthetic gems. Register for either the morning or afternoon session.

Saturday, October 19 AC91049, 9:00 a.m. - noon AC91050, 12:30 - 3:30 p.m. \$25 (\$20 members)

Day of the Dead -Traditions from Around the World

Alice Rubio, Storyteller

Throughout the year, cultures world-wide participate in traditional celebrations in honor of their ancestors. Many believe that their ancestors' souls roam the earth on certain days of the year, and gifts of food, clothes, flowers or performance are given in respect to them. For example, in August the Yoruba people in Nigeria (who believe in witches) have a Gelede festival in which they try to please the witches through dance to use their power for good and not evil. In Mexico, Dia de los Muertos is celebrated the first two days of November. Celebrations vary from state to state in Mexico, including processionals, altar displays, and visits to the cemetery. Examine the myths and folktales handed down through oral traditions, as you discuss celebrations of the dead from several cultures.

AC91051, Saturday, November 2 (1 session), 10:00 a.m. - noon \$12 (\$10 members)

Papermaking With Plants Phyllis Nelson, Papermaking Instructor

Please note the full description listed under Friday. You may register for either the Friday or Saturday day-long workshop.

AC91046, Saturday, November 2 (1 session), 9:00 a.m. - 4:00 p.m. \$48 (\$40 members)

Programs Previously Listed — Space May be Available

The Chronology of Calligraphy: Roman Capitals and Versals

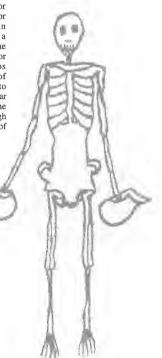
AC91026, Tuesdays September 10 - October 22 (6 sess. — no class Oct. 15), 7:00 - 9:00 p.m. \$60 (\$48 members)

Genesis Rewritten: A History of Natural History

AC91027, Thursdays September 12 - October 17 (6 sessions), 7:00 - 9:00 p.m. \$60 (\$48 members)

Introduction to Chinese Brush Stroke AC91030, Thursdays

September 19 - October 24 (6 sessions), 7:00 - 9:00 p.m. \$60 (\$48 members)



Adult Field Trips

For all field trips please note the following:

Weather: Field trips go "rain or shine." Be sure to dress appropriately for the conditions.

Transportation: Most adult field trips leave the West Door of Field Museum and travel by chartered coach. Family field trips travel by school bus. See trip descriptions for exact departure times and specific details. All participants should be at the West Door at least 15 minutes prior to the departure time.

Trip Schedule: The trip route and/or schedule may vary slightly at the leader's discretion.

Age: The minimum age for adult field trips is 18 years. Students 13-17 may attend trips only if accompanied by an adult.

These trips are funded in part by the Ray A. Kroc Environmental Fund.

Prairie Walk

Phil Hanson, Division Head, School and Community Outreach, Education Department, Field Museum

Visit both Lockport Prairie, one of the few remaining shallow soil prairies, and the Fermilab Prairie, a restored prairie located inside the Fermilab accelerator ring. Develop an awareness of the Illinois landscape of over 200 years ago and identify prairie plants as you learn about prairie conservation efforts. Bring a lunch and beverage, and be prepared for a strenuous walk.

FT91042, Saturday, September 28 9:00 a.m. - 5:00 p.m. Departs from West Door \$30 (\$25 members)

Chicago Waterways

Irv Cutler, Professor Emeritus, Department of Geography, Chicago State University

Our 70-mile guided tour along Chicago's inland waterways provides a unique perspective on the ecological, economic, and communal history of greater Chicago. Travel by boat through the Chicago locks into Lake Michigan, south along the shoreline to Calumet Harbor, down the Calumet River, and through the Cal Sag Channel. We will return to the Michigan Avenue bridge via the Ship and Sanitary Canal and the south branch of the Chicago River. Bring a lunch and beverage. Please note: Participants meet at the Wendella Boat Dock on the Northwest corner of the Michigan Ave. Bridge (adjacent to the Wrigley Building, 400 North Michigan Avenue) at 8:30 a.m. Dress for the cooler temperature on the water. An optional route is planned if inclement weather prevents travel on Lake Michigan. Optional route decisions will be made, if necessary, by the tour leader.

FT91044, Saturday, October 5 8:45 a.m. - 4:00 p.m. Departs from the Wendella Boat Dock \$40 (\$32 members)

Adult Field Trips

Sandhill Cranes at Jasper-Pulaski Wildlife Area

Peter Dring, Naturalist, Little Red School House Nature Preserve

Sandhill cranes and Canada geese make an annual stopover in the fall and spring at Jasper-Pulaski Wildlife Area in Indiana. Identify the many resident and migratory birds on a walk through the 7,200 acres of woodlands, swamps, cattail marshes and ponds. Bring a lunch and beverage and wear good walking shoes. Bring binoculars and a field guide if you have them.

FT91045, Saturday, October 12 9:00 a.m. - 5:00 p.m. Departs from West Door \$42 (\$35 members)

Argonne National Laboratory Phil Hanson, Division Head,

School and Community Outreach, Education Department, Field Museum

In the morning, hike the oak-hickory forests and visit one of the early but now abandoned locations of the Laboratory. On our afternoon visit to Argonne, we will be briefed on its history and visit selected labs. Participants must be at least 18 years old and provide full name and country of citizenship before entering Argonne. Bring a lunch and wear good walking shoes.

FT91046, Saturday, October 12 9:00 a.m. - 5:00 p.m. Departs from West Door \$30 (\$25 members)

Fall Forest Hike

Phil Hanson, Division Head, School and Community Outreach, Education Department, Field Museum

Enjoy the delightful changes that come with the season on this all-day hike in the Palos Park region. In the morning, we will hike through the Mt. Forest area. Surrounded by water on two sides, Mt. Forest is an oak/hickory woodland with intriguing geologic clues to its ancient glacial Lake Chicago past. In the afternoon, a hike through nearby Cap Sauers Woods highlights the fall colors of the local flora and fauna. Bring a lunch and beverage and be prepared for a strenuous hike.

FT91047, Saturday, October 19 9:00 a.m. - 5:00 p.m. Departs from West Door \$30 (\$25 members)

Cultural Tour of the Indiana Dunes Irving Cutler, Professor Emeritus, Department

Irving Cutler, Professor Emeritus, Department of Geography, Chicago State University

Experience the natural beauty of the Indiana lake shore dunes country in its fall colors while Dr. Cutler explains historic, geologic and botanic features of this National Park. Visit a duneland farm, home, church, and museum—all historic landmarks. See the duneland community of Beverly Shores with its interesting model Century of Progress homes. En route, tour the industrialized areas of Lake Calumet and northwestern Indiana. Hiking the dunes is optional. Sunday brunch in the scenic Spa restaurant is included.

FT91048, Sunday, October 20 9:00 a.m. - 5:00 p.m. Departs from West Door \$47 (\$40 members)

Family Field Trip

Illinois Beach State Park

Alexia Trzyna, Division Head, Visitor Programs, Education Department, Field Museum

Spend a day discovering the plants and animals that live on the sandy shores of Lake Michigan. Take a close look at water from the Dead River and gather stones and sand from the water's edge. As we hike, learn why this beach is one of Illinois' most unique environments. Bring a lunch and beverage and wear comfortable clothing and sturdy shoes. Expect to do a great deal of walking.

FT91049, Parents and Children Grades 3 - 8 Sunday, October 20, 8:30 a.m. - 3:30 p.m. Departs from West Door \$18 per participant (\$15 per member participant)



James Burke

Lectures

An Evening with Philip Currie, Ph.D.

The China Connection: Dinosaur Discoveries in the Gobi Desert

To highlight our Prehistoric Weekend, Dr. Philip Currie, Head of Dinosaur Research at the Tyrrell Museum of Palaeontology in Drumheller, Alberta, Canada, will visit Field Museum as guest lecturer. He will discuss the results of five years of expeditions to China to search for new evidence of dinosaur species and their relationshop to North American dinosaurs. Dr. Currie, recently featured on the PBS Nova series, "The Hunt for China's Dinosaurs," has spent many years trying to solve the mystery of the origins of similar dinosaur species found in Asia and North America. Paleontologists have been studying this for decades with many proposed explanations. As part of a Chinese-Canadian team, Dr. Currie, accompanied by other researchers made five trips to China and four into Canada to study this phenomenon further. For many years scientists had little to no access to the fossil beds of Asia, so these expeditions were rare opportunities for dinosaur study. Dr. Currie will trace the history of expeditions to the Gobi and the clues from them used for this most recent study. The hard work and discoveries in the field over the five years will be detailed as Dr. Currie discusses what their discoveries have revealed about dinosaur species distribution on the two continents, dinosaur behavior and migration theories. A reception will follow the lecture.

LL91002, Friday, October 11 7:00 p.m. \$12 (\$10 members)

An Evening with James Burke

Axmakers of the Twenty-first Century: Technology, Environment and Social Change

James Burke is Great Britain's foremost commentator on science and technology, a television host, author, and educator. His wellknown programs for PBS include Connections, The Day the Universe Changed, and, most recently, After the Warming. Join us for his presentation.

Nine hundred thousand years ago the axmakers of ancient Africa sent us on the greatest journey humankind has ever made. In the millennia that followed, we used our tools to shape the environment, fashion language, generate ethnic diversity, build social structures and trigger technological innovation. Led by our axmakers, at each stage of the journey we boosted the carrying capacity of our environment, so that we could continue to go forth and multiply. We were too successful. Five decades from now, when our numbers reach ten billion, how will the axmakers of the twenty-first century save the planet?

A reception will follow Mr. Burke's lecture. A box supper will be available at 6:00 p.m. at an additional cost for those who are interested in a light meal before the lecture.

Lecture: LL91004, Friday, November 8 7:00 p.m. \$15 (\$12 members)

Box supper: LL91008, Friday, November 8 6:00 p.m. \$12 per person (Please indicate on the registration form if you would like a vegetarian meal.)

Lecture Series

Explorations in Nature: Science in the Field

"Into the Wild: Animals, Trails & Tales," Field Museum's newest exhibit, will open on November 9, 1991 in the Daniel F. and Ada L. Rice Wing. Visitors will see many of the Museum's animals from the collection displayed in an engaging series of exhibits with interactive elements. To complement the opening of the exhibit, we are pleased to announce a lecture series with three distinguished Field Museum scientists. Lectures will be held on Saturday afternoons at 1:30 p.m., November 9-23. Join us for individual lectures or register for the series at a special rate.

Historical Perspectives on Ornithology

Scott Lanyon, Ph.D., Associate Curator and Head, Division of Birds, and Chairman, Department of Zoology

Dr. Lanyon will trace the history of ornithological research as he describes the type of research done in the 1930s, the 1960s and today. Although the goals of research transcend time, the methodologies have changed dramatically over the years. Experiences from his years of research and the contributions made to Field Museum collections and the knowledge of bird species will be highlighted.

LL91005, Saturday, November 9 1:30 p.m. \$7 (\$5 members)

Patterns of Diversity: Perspectives on Mammalian Research and Conservation

Lawrence Heaney, Ph.D., Associate Curator, Division of Mammals

Dr. Heaney will explore his work in discovering the "hows and whys" behind biodiversity of mammal species. He will discuss the importance of studying a particular group of animals for determining specific characteristics and more general patterns of diversity and their impact on species' conservation. Using his experience in the Philippines as an example, Dr. Heaney will trace patterns of diversity from the Ice Age to the present and show the changing effects of these island ecosystems on mammal species over time. Connections to research projects and mammalian studies in the United States will also be made.

LL91006, Saturday, November 16 1:30 p.m. \$7 (\$5 members)

Life on the Forest Floor: Studies in Borneo

Robert Inger, Ph.D., Curator, Division of Amphibians and Reptiles

For over 40 years, Dr. Inger has studied the reptiles and amphibians of rain forest communities in Borneo, Sumatra, Malaysia, and Thailand. His intensive research in Borneo has given important "snapshots" of these communities to compare and contrast over time and with other environments. After a review of the frogs of Borneo, he will discuss how these species are distributed through forest communities and how they use different parts of their environment to survive. Dr. Inger will share some of his experiences in the field and discuss his research findings on the effects of logging and the impact on species' conservation.

LL91007, Saturday, November 23 1:30 p.m. \$7 (\$5 members)

Series Special Rate (for three lectures) \$18 (\$12 members)



To Register:

Clip the completed registration form and mail with payment to: Field Museum of Natural History, Department of Education, Program Registration, Roosevelt Road at Lake Shore Drive, Chicago, Il 60605-2497. Please include a business-sized self-addressed, stamped envelope. Registrations are confirmed by mail. Participants who withdraw from a program prior to the first session can receive a refund less a \$10 processing fee.

Questions? Call (312) 322-8854.

Registration Form			For Ed. Dept. use only:	Date received	: Dat	e mailed:	
Name			Membership #				
Address			City		State	Zip	
Telephone: Da	ytime		Evening:				
Program No.	Program Name		# Members	# Nonmemb	ers Amo	Amount	
	-						
☐ Scholarship requested ☐ Check		☐ Check en	enclosed				
☐ AMEX	U VISA	■ MasterCard	☐ Discover (C	heck one)			
Card #		Expiration date:		Signature			



World Music

Sunday, September 1

1:00 and 3:00 p.m. Carlos Cumpian shares his original poems & stories of Chicano/Mexi-

Saturday & Sunday, September 7 & 8

1:00 p.m. Henry Huff plays original music on the harp, drum & balaphon.

3:00 p.m. Gideon Foli Alorwoyie demonstrates African drums and dancing.

Saturday, September 14

1:00 p.m. and 3:00 p.m. Listen to the blues harmonica of Chicago Beaux.

Saturday & Sunday, September 28 & 29

1:00 p.m. Musa Mosley demonstrates the playing and crafting of African drums. 3:00 p.m. Woodwind instruments from around the world are played by Mwata Bowden.

Saturday, October 5

zheng, a Chinese zither.

1:00 and 3:00 p.m. Gideon Foli Alorwoyie demonstrates African drums and dancing.

Saturday & Sunday, October 19 & 20

1:00 p.m. Ari Brown plays a variety of musical styles on the saxophone. 3:00 p.m. Fan Wei Tsu demonstrates the

Saturday & Sunday, October 26 & 27

music is performed by Maggie Brown.

1:00 p.m. Douglas Ewart plays original music on flutes from Japan and Australia. 3:00 p.m. The evolution of black music from field hollers & spirituals to contemporary rap

Weekend Activities

A variety of programs are offered to visitors free with Museum admission. Check the weekend Field Notes Sheet for more details.

Around the Field

Sundays, September 1 & October 6 2:00 p.m. Dinosaurs, totem poles and more will be visited during this highlight tour of Field Museum.

Stories From Around the World

Saturdays, September 7, 21, October 5 & 19 11:00 & 11:30 a.m.

Listen to an interesting collection of folktales from around the world.

What's New With Dinosaurs

Saturday, September 7 12:00 p.m. What do you want to know about dinosaurs? Come ask questions and learn about the latest discoveries, research and theories.

Fireballs & Shooting Stars

1:00 p.m. Saturday, September 7

Meteorites are keys to understanding our universe. Explore the secret locked in these mysterious objects from outer space.

Treasures of the Totem Forest

Sunday, September 8 12:00 p.m. A walk through Museum exhibits introduces the world of the Northwest Coast Indians.

Plains Indian Beading Demonstration

Sundays, September 8 & October 6 1:00 - 3:00 p.m.

Edgarita Long will demonstrate traditional Pawnee beading patterns and techniques.

Museum Safari

Sundays, September 8 & 22 12:30 p.m. A trek through the four corners of the Museum to see the seven continents.

Hieroglyphs

Saturdays, September 14, 28, October 12 & 26 12:00 - 2:00 p.m.

Sundays, September 8 & 22 2:00 - 4:00 p.m. Ancient Egyptians used a type of picture writing called hieroglyphs. Have our scribe write your name in this ancient alphabet.

Hopi of the Southwest

Saturdays, September 14, and October 5 2:00 - 3:00 p.m.

Sundays, September 29, and October 13 12:00 - 1:00 p.m.

The importance of corn and kachinas are just some of the topics discussed.

Dinosaur Lifestyles

Saturdays, October 5 & 19 12:30 p.m. Where did dinosaurs live? Why did they become extinct? Come investigate some of the latest theories on dinosaurs.

Tibet Today & A Faith In Exile

Saturday, October 19 1:30 p.m. Celebrate the "International Year of Tibet" at

Tibet Today & Bhutan, Land of the Thunder Dragon

Saturday, October 26 1:30 p.m. Visit Tibet and Bhutan, a small Himalayan country, via this slide presentation.

Specimen Preparation:

this slide presentation.

Meet Field Museum preparators as they work on specimens for the Field Museum's collec-

Bird Preparation: Sunday, September 8 & Saturday, October 26 11:30 a.m. - 4:30 p.m. Herbarium Preparation: Saturdays, September 28 & October 19 11:30 a.m. -4:30 p.m.

Mammal Preparation: Saturdays, September 7 & October 5 11:30 a.m. - 4:30 p.m.

Insect Preparation: Saturday, September 14 & Sunday, October 20 11:30 a.m. - 4:30 p.m.

Webber Resource Center

Native Cultures of the Americas

Webber Resource Center offers books, newspapers, video and audio tapes, and teacher resource materials about Native Peoples of the Americas.

Daily 10:00 a.m. - 4:30 p.m.

Pawnee Earth Lodge

Visit the earth lodge and walk into a traditional home of the Pawnee Indians. Free tickets for programs are available from the South Information desk.

Weekdays: 1:00 p.m. program Weekends: 10:00 a.m. - 4:30 p.m.

Place For Wonder

Place for Wonder is a special room of touchable objects. Come examine toys and clothes from Mexico and an array of rocks, fossils, plants and bugs.

Weekdays: 12:30 p.m. - 4:30 p.m. Weekends: 10:00 a.m. - 4:30 p.m.

Featured Program

Neighbors Night at the Field

Saturday, September 14, 5:00 - 9:00 pm

Field Museum Community Outreach Program invites you for an evening of free performances, demonstrations, refreshments, and much more. Performances by Chi-Lites, Energy, Time & Space, American Indian Dancers, Kanoon Folkloric Dancers, Rouge's Gallery Theater, Pocomania Caribbean Dance Company, Freddy Concepcion and Viva la Gente de Chicago. For more information call: 312/922-9410, ext. 363,

Festivals

CELEBRACION

September 19 - 22, 1991

Thursday & Friday, September 19 & 20 10:00 a.m. - 1:00 p.m.

Activities include:

A Map Puzzle of Latin America; Flags, Symbols & Languages; Amazing Maize; Original Plants of Latin America; Make Your Own Quípu; Games of Perú with Cesar Izquierdo; An Engineer's Tool... Yesterday and Today; Maya Math; Ceramics... A Way to Differentiate Cultures; Té Mate; Cassava Bread; Oh Brazil, Oh Brazil; Mural Painting with Roberto Valadez; Spinning vs. Weaving; and Day of the Dead in México.

Musical performances and storytelling by: Freddy Concepción, Los Cantores Guarani, Diego Juárez Sánchez, Jesús Negrete and Carmen Aguilar.

Saturday, September 21

10:00 a.m. - 4:00 p.m.:

10:00 - 11:00 a.m. - Making a Piñata 10:00 a.m. - 12:00 pm. - Spinning vs. Weaving 11:00 a.m. - 2:00 p.m. - Maya Math, Map Puzzle & Make Your Own Quípu.

1:00 - 2:00 p.m. - Malukosamba performs rhythms of Brazil.

1:00 - 2:00 p.m. - Making a Piñata

2:00 - 3:00 p.m. - Stories of Mexican-American Culture by Carlos Cumpian.

2:30 - 3:00 p.m. - Tecún Umán Jolom K'Onob performs "Animainak".

3:00 - 4:00 p.m. - Raíces del Ande performs music from Perú, Bolivia & Ecuador.

Sunday, September 22

10:00 a.m. - 4:00 p.m.:

10:00 a.m. - 12:00 p.m. - Spinning & weaving 11:00 a.m. - 2:00 p.m. - Maya Math, Map Puzzle & Make Your Own Quípu.

1:00 - 2:00 p.m. - Carlos Cortes demonstrates woodblock cutting & printing.

2:00 - 3:00 p.m. - Classical Guitar of Latin America is performed by Librado Salazar. 2:00 - 3:00 p.m. - Traditional Dances from

Puerto Rico are performed by "Lasting Impressions." 2:00 - 3:00 p.m. - Traditional Cassava Bread.

3:00 - 4:00 p.m. - Mariachi Guadalajara performs popular traditional Mexican music.

DINOSAUR FESTIVAL

Thursday & Friday, October 10 & 11 10:00 a.m. - 2:00 p.m.

Activities include:

Dinosaur Film Fest; Fossil Preparation; Dinos and Dino-Nots; Dinosaur Math; Dinosaur Sizes; and Howtopaintasaurus.

PREHISTORIC WEEKEND FESTIVAL Saturday & Sunday, October 12 & 13 10:00 a.m. - 4:00 p.m.

Activities include:

Dinosaur Film Fest; Fossil Preparation; Dinos and Dino-Nots; Dinosaur Math; Dinosaur Sizes; Howtopaintasaurus; Fossils in the Floor; and Fossil Rubbing.

Special presentations:

12:00 noon & 3:00 p.m. - "Crash & Boom, Slash & Scrape, Dinosaur Stories True and Fake" by Alice Rubio. 1:00 p.m. - "Dinosaur Discovery at Big Bend"

lecture by Tom Evans.

Theater:

Center Theater presents a unique joint drama/science program about dinosaurs. This children's participatory play follows a young person's adventures and fantasies about the giants of long ago. This play brings the past alive for both young and old.

"Do You Really Want a Dinosaur?" Saturday, October 12 & Sunday, October 13 11:00 a.m. and again at 2:00 p.m. All performances are free with your paid admission.

UPSTAIRS, DOWNSTAIRS

NEIGHBORS NIGHT SEPT. 14

t's our way of saying, 'We always come to your house, so why don't you come over to ours," says Jessie Thymes of the Museum's annual Neighbors Night, scheduled for Saturday, September 14. As head of the Community Outreach Program, Thymes has been traveling to Chicago neighborhoods, setting up workshops, showing people how much fun the Field Museum can be.

Neighbors Night is an opportunity - for anyone in Chicago, but especially for people from the eight inner-city neighborhoods served by the Community Outreach Program - to talk with Museum insiders, see live performances, participate in hands-on activities, and generally just enjoy themselves in an educational environment.

The Community Outreach Program was created in September 1988 in hopes of getting people from inner-city neighborhoods more involved in the Museum. Polls had shown that the majority of Field Museum's visitors were suburbanites or tourists, and it was obvious that something was keeping city people away. "We didn't have a bad reputation," says Thymes, 'we just had sort of a blah one."

The Outreach Program was created to show the teachers, adults, and most importantly the children in the target neighborhoods that the Museum can be a lot of fun; to spread this message, Thymes took her show on the road. Working alone the first year or so, she visited churches, Y.M.C.A.s, libraries - any place people in a community gathered — with a program designed to pique the public's curiosity and open people's eyes to the advantages of the Field Museum. It worked. Since its inception, the Outreach Program has grown to include eight neighborhoods, and now offers in-depth community staff training as well as the onetime-only workshops. "We've been very succesful, and the more time goes on and the more people hear about us, the more they want to participate," she says.

Despite the hectic schedule, Thymes has found the time to diversify a little, expanding the program to include ambitious new agendas. The one she's most proud of is the Parental Involvement Project, in which parents agree to come in for one afternoon a month to work with Museum curators and staff. This program not only exposes the parents to new worlds of information, but it trains them to use the Museum as a resource for their children's education.

Rosaura Boone joined the Outreach program as assistant coordinator to help meet the growing demand for services. An exciting project involved senior citizens from the Pilsen YMCA. Women from the Mexican-American community in the Pilsen neighborhood volunteered their time and talents to create traditional costumes for the Mexico section of Place for Wonder. The women will be presenting their project to visitors on neighbors Night.

The first Neighbors Night, in 1989, had 1,600 visitors, last year's drew 2,400, and this year even more are expected. It's easy to see why this is becoming such a popular event. It's a night of fun, music, games, workshops, and learning. "We want teachers and parents to see the Museum as an accessible resource center,"
Thymes explains. "We want the Museum to appear to be user-friendly and approachable. That way, more people will benefit from what

David Willard, collections manager in the division of birds. shows visitors at last vear's Neighbors Night how bird specimens are prepared.



we have to offer."

Some of the activities scheduled for September 14 include a performance by the Emmy-award winning band, the "Chi-Lites," exhibitions of bird specimen preparation and ancient Egyptian hieroglyphic writing, creating Japanese origami paper sculptures, African tiedying, and making fossil rubbings. Visitors can also learn about "Animals With Bad Reputations," the "Dinosaurs in the Sidewalk," "Life Meets Death: Mexico's 'Day of the Dead,' and the "Hidden Neighborhoods" populated by insects and bugs that we co-exist with without even knowing it.

Perhaps the one Neighbors Night activity that best sums up what the Community Outreach Program is trying to accomplish is the Pen Pal Station. Here children will pick a name out of one of eight bowls, representing the eight neighborhoods where the Outreach Program does most of its work - Pilsen. Chinatown, Englewood, West Englewood, South Shore, South Chicago, Auburn-Gresham, and the Near West Side. The person whose name the child chooses becomes his or her new pen pal. On Neighbors Night in 1992, there will be a "Meet Your Pen Pal" station where the new friends can meet face to face.

- Steve Crescenzo

Become a Member

of the Field Museum of Natural History and receive these benefits:

- Free admission
- Free coat checking and strollers
- Invitation to Members' Night
- Priority invitations to special exhibits Free subscription to *In the Field*
- 13-month wall calendar featuring exhibit photographs
- Reduced subscription prices on selected magazines
- Opportunity to receive the Museum's
- annual report 10% discount at all Museum stores
- Use of our 250,000-volume
- natural history library
 Discount on classes, field trips, and seminars
 for adults and children
- Members-only tour program
- Children's "Ancient Egypt" birthday party
- Opportunity to attend the annual children's Holiday Tea
- Opportunity to support one of the great natural history museums of the world

MEMBERSHIP APPLICATION New Members only. This is not a renewal form.

Please enroll me as a Member of the Field Museum of Natural History

Name	
Address	
City	
StateZip	
Home phone	

MEMBERSHIP CATEGORIES

Business phone.

- Individual one year \$30 / two years \$55
- Family one year \$35 / two years \$65 (Includes two adults, children and grandchildren 18 and under.)
- Student/Senior one year \$25 (Individual only. Copy of I.D. required.)
- Field Contributor \$100 \$249
- Field Adventurer \$250 \$499
- Field Naturalist \$500 \$999
- Field Explorer \$1,000 \$1,499
 - All benefits of a family membership
 - Founders' Council \$1,500 Call (312) 322-8878 for more information.

SEPIK RIVER CRUISE IN JANUARY

ield Museum's first members' tour of 1992, departing January 17, will be one of the world's great travel adventures - a two-week cruise to Australia's Great Barrier Reef and up the Sepik River into the heart of Papua New Guinea.

After a day at leisure in Cairns, the group will explore the Great Barrier Reef en route to Michaelmas Cay, the "Isle of Birds," which is home to more than 28,000 migratory sea birds of 14 different species. We'll then fly to Port Moresby, the capital of Papua New Guinea, to visit the Museum of Anthropology and its excellent collection of Melanesian art, the National Art School, and the National University's Botanical Gardens, famed for its extensive orchid collection.

At Ambunti, we'll start a five-day Sepik River cruise aboard the world's largest sailing catamaran, the luxurious Melanesian Discoverer. Our guide will be Robert L. Welsch, Ph.D., visiting associate curator of anthropology at the Field Museum, who began his work in New Guinea in 1977 and is currently involved in a large-scale research project to document continuity and change in the region since the days of the Museum's first great expedition there in 1909-13

In villages along the river, the group will observe the daily and ceremonial lives of these once-isolated, stone-age communities struggling to make the leap to the 20th century in one generation. Lectures and debriefings on the day's events, supplemented by excellent documentary videos, will highlight each evening's shipboard schedule.

The second week of the tour begins with a charter flight to Tari in the exotic Southern Highlands, surrounded by rugged mountains. Home of the Huli clan, one of the last pacified



tribes, Tari features a regional marketplace where women display the fruits and vegetables they have carried in on their backs from distant homes, and the men parade in their enormous wigs made of human hair decorat-

ed with fresh flowers and rare feathers

The tour is priced at \$6,850 per person (double occupancy).

Coming in February: The River Niger: Ghana, Mali, and Songhai (See back page.)

September/October 1991

SUMMER CELEBRATION

hat an international summer it has been at Field Museum! We were fortunate to host events, performances, and programs to celebrate the International Year of Tibet, the Festival of Indonesia, the Sister Cities International Conference, and the Mexican festival of La Guelaguetza.

Within a matter of days, three groups participating in the Sister Cities conference performed at the Museum. (Pictures on opposite page.) The Shenyang Acrobatic Troupe from China featured 15-year-old Li Danyang - the 'actress of the spinning cups." The 25-member Maori Waiwhetu Cultural Group from Lower Hutt, New Zealand performed traditional dance and song, demonstrated poi balls, and showed off their moko, designs painted on their faces. Ms. Kyokusui Yamasaki, a "National Treasure of Japan," performed tra-ditional Biwa court music. We'd like to thank the City of Chicago's department of cultural affairs for making these performances possible.

Asmat, Dani, and Sentani performers and artists from Irian Jaya, Indonesia came to Chicago July 25 - August 4 as part of the Festival of Indonesia. Representatives of many Dani and Asmat villages answered questions about their daily lives and asked many questions about Western customs. In the pictures at right, Asmat performers Mikael Gunesmanan and Lukas Bimiscet dance on the Mbis pole (ancestor pole) stand as part of their daily performance; Rufus Sisomor demonstrates the fine art of Asmat woodcarving, and Elly Hengda demonstrates Sentani bark painting. These programs were sponsored by the Asmat Progress and Development Foundation and the Republic of Indonesia.

La Fiesta de la Guelaguetza - 65 performers representing the seven regions of the state of Oaxaca, Mexico - performed at the Museum August 9-11. "La Guelaguetza" is an annual dance festival celebrating the ancient tradition of cooperation and sharing between the peoples of Oaxaca. Pictured below are a feather dance from the Region de los Valles Centrales and a procession featuring mojigangas, oversized puppets. The stage mural is by Chicago artist Roberto Valadez. The program was a collaboration between the Field Museum, the Mexican Cultural and Educational Institute of Chicago, and the Oaxacan community of Chicago.

Alexia Trzyna and Kristen Webber Department of Education

Photographs by James Balodimas except where otherwise noted.

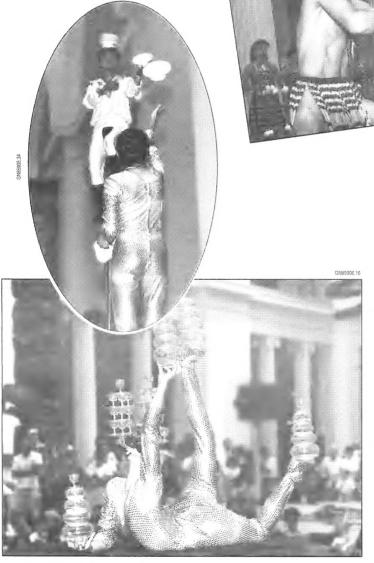




SUMMER CELEBRATION









FROM THE FIELD

SILK ROAD . . .

(Continued from page 1)

lected surface samples as well as our excavated finds showed that the kinds of imported objects at KKK and LP were not just similar but almost identical. The same shapes and colors of beads and glass turned up in both sites, and both yielded the same types of the same ceramic wares. Moreover, because one of us was also exploring early kiln sites in China, we were increasingly sure that all the Chinese wares were of the same date: none could be much earlier than about A.D. 825 and none had to be later than about A.D. 875.

We were unable to find any way stations on the trans-peninsular route. How then do we know that the overland route existed? Partly because of the strong similarity in object inventories from KKK and LP and partly because we are now convinced that there are no other large trading sites of that period on either coast of southern Thailand. We visited all of the known places in that area that have yielded Chinese or Middle Eastern objects. Only two sites, both quite small and on the east coast, had any 9th century objects at all.

We are encountering many surprises as our analysis of finds nears completion. One is that a high percentage of the Chinese ceramics at KKK and LP turns out to have come from Guangdong (or Canton) province in the far south of China. Archaeologists have realized for several decades now that northern and central Chinese kilns began exporting their wares during the 9th and perhaps even the 8th century. But no one thought the kilns of southern China were active at such an early date. Now

Above: part of the excavations at Ko Kho Khao. Among the objects discovered at KKK were the sherds of Chinese Changsha ware, top right.

that we have learned to recognize exported Guangdong wares, it is becoming clear that they are quite common at overseas sites as far away as Sri Lanka and the Persian Gulf. Further, almost all of these Guangdong ceramics, although technically well made, are cruder and less carefully finished than contemporary export wares from other parts of China. It seems that this represents a new phenomenon in the world: high-technology, low-priced goods made in large volumes for foreign markets. Interestingly, the same part of China — Hong Kong and neighboring parts of Guangdong — has adopted a similar economic strategy in recent times.

The quantity of glassware from the Middle East also came as a surprise, since fragments of any glass objects except beads and bracelets are scarce at most Southeast Asian sites. Like Chinese porcelain, blown glass containers were also high-tech products by the standards of those days. Although the Syrians and Egyptians had been making blown glass vessels since Roman times, most of the 9th century world was still ignorant of the technique of blowing

molten glass into large bubbles, then shaping these into vases, bowls and plates. To the Chinese, Middle Eastern glasswares were as mysterious and desirable as high-fired porcelain and stoneware were to Middle Easterners. This naturally formed the basis for vigorous two-way trade.

So finding quantities of Middle East-

ern glass sherds at KKK and LP at least made sense. What was equally surprising and did not make sense was that both sites also contained low-fired glazed pottery from the Middle East, some of which closely imitated the technically superior Chinese wares. Why should early traders have, as it were, carried coals to Newcastle? The answer is that we do not know. Perhaps some of the traders were Arabs, who preferred the kinds of bowls and jars they used back home. Perhaps the Middle Eastern wares had some other special quality: significantly, examples have been found in early tombs in China, showing beyond doubt that even the Chinese prized them. The safest conclusion is that consumers in those days, like their modern counterparts, were not entirely rational in what they chose to buy and use.

A further surprise was that the locally made objects at KKK and LP were by no means the same: for instance, the unglazed local pots from the two sites were quite different in style despite the similarity of the imported glazed wares. This hints at cultural or even ethnic differences between the people involved. Judging by their pottery, the inhabitants of LP had a close connection with central Thailand and those of KKK with Malaysia.

The difference between the populations of KKK and LP may be related to a discovery we made at the former site in 1988: a high earth-walled reservoir about 800 meters in circumference and constructed in the same way as reservoirs in Sri Lanka and southern India. The reservoir seems to be the one mentioned in a long-known stone inscription that was found in 1902 at Takuapa just east of KKK. The important facts here are that the inscription is in Tamil, a South India.

an language, and that it commemorates the building of a reservoir by an Indian merchant guild, to be protected by the guild's soldiers. This does not necessarily mean that KKK was an Indian colony in those days — after all, the local pottery there is Southeast Asian, not Indian. But it does mean that the political influence of Indians was strong. Modern historians have tended to discount the old idea that ethnic Indians ever held political power in Southeast Asia, in spite of the existence of much obvious cultural influence from India. Perhaps it is time for these modern opinions to be reevaluated.

The project has also produced a puzzle. The Far Eastern-Middle Eastern sea route is quite well documented historically. It was traversed by many people who wrote about it, including Marco Polo on his way back to Italy in the 14th century. As early as A.D. 800-900 a number of Chinese and Arab writers mention the route, and several give detailed descriptions. However, none of these historical sources says anything about the route crossing dry land, at the Kra Isthmus or anywhere else. For a period of a thousand years all literate travelers seem to have gone from the Indian Ocean to the South China Sea through the Straits of



Malacca, not across the Isthmus. And yet the evidence on the ground for a dry land crossing is very strong. It seems that history and archaeology conflict.

We think the explanation is that the transisthmian segment of the maritime route was in use for only a brief period of time, too brief for any historical source to have noticed it. As we said earlier, the ceramics and other datable finds from KKK and LP fit quite neatly into a time span of no more than fifty years, from about A.D. 825 to 875, and the time span could have been even shorter than that. Considering that only two of the 9th century travel writers actually saw the maritime route in person, it is quite possible that neither of them did so during the few decades when international traders were forced to cross the Isthmus, for reasons that are not yet clear - perhaps military or political problems, piracy, or a natural disaster. By the time the travel writers passed that way, the stream of commerce had resumed its normal course through the Straits of Malacca. And by then KKK and LP may already have been abandoned.

NEW ETHOS OF ARCHAEOLOGY

ield Museum anthropologists are currently engaged in a number of foreign and domestic research projects besides the one in southern Thailand. Excavations and archaeological surveys include those of Charles Stanish in Peru, Anna Roosevelt (who has just joined our anthropology department) in Brazil, Chuimei Ho in China, and Jonathan Haas and Winifred Creamer in New Mexico. A major ethnological program by John Terrell and Robert Welsch is now under way in Papua New Guinea.

All these projects have two things in common: they are carried out in close cooperation with local specialists, often as joint efforts between Field Museum and a local museum or government agency, and they are not intended primarily as a way to augment our collections. Anthropologists nowadays have to come to terms with the fact that artifacts usually cannot be legally removed from their country or state of origin. We are sometimes given permission to bring a few objects back to Chicago. But what we mainly bring back are photographs, drawings, data and ideas. Luckily for us, our artifact collections from many regions are already excellent. Our mission now is to understand more about the societies that produced the artifacts and how those societies fit into broader patterns of long-term social, economic and environmental change.

TANNING OUR HIDES

By Bill Kephart Preparator, Division of Mammals

ixty years ago, the Cudahy-Massee-Milwaukee Museum African Expedition (1928-29) collected more than 250 animals in East Africa for both research and exhibition. The collection was exhaustively documented, but the onset of the Great Depression limited funds for further preparation and most of the specimens were put in storage. The skins were pickled and folded, the bones stored without cleaning.

Today, when many species are protected and new specimens are largely limited to animals that die in zoos, the Milwaukee collection has become even more important to researchers. In 1982, the Milwaukee Public Museum offered the entire unprepared collection to the Field Museum. The skeletons were prepared first, and we are now working on the skins, using a tanning process developed here in the 1930s by the ingenious Dominick Villa and his son Mario.

None of these specimens will ever be mounted. They are for scientific research only.

The skins are used as representatives of the live animal. The animal's size, the length of its limbs, ears, and tail, the size and shape of its hooves, claws, nails, and musk glands, the patterns of fur growth, coloration, and seasonal change — all this and more can be learned from a well-prepared skin.

Once tanned and preserved, the information contained in these skins will help many generations of researchers investigate the biology, ecology, and evolutionary relationship of African mammals.

Photographs by John Weinstein



1. The skins begin dry, folded, and dirty. They have already been pickled so they are slightly flexible. An identifying number is attached and the skin is placed in a large vat of cold water and left to rehydrate for approximately three days. The water is kept cold to discourage bacteria growth. Bacteria can cause the fur and epidermis (the outer pigmented layer of skin) to "slip," i.e., slough off.

After rehydrating, the skin is taken from the vat and spread out. The skin is checked for natural and unnatural damage, remaining bones, cartilage, and tissue, and parasites. All of these are removed and saved: The bones go with the rest of the skeleton; the cartilage and excess tissue are saved for possible use in DNA research; and the parasites are saved for whatever study they might serve.

The skin is then washed with a simple detergent to remove excess dirt and grease that can sully the tanning solutions. After rinsing, if the skin is stiff, it may be "beamed" to open up the skin fibers. This involves the use of a slanted wooden beam shaped like an ironing board (above). A dull metal blade is pulled down over the skin to stretch the the fibers. Beaming can also be used to remove fat and excess tissue from a fresh skin.



2. The skin is placed in an alum pickle. Alum is an aluminum salt that produces a slightly acidic solution which neutralizes the natural glues in the tissue. Although these skins have already been pickled, the pickling was done many years ago so the step is repeated for assurance. The skins spend approximately eight days in this solution.

Following the pickle, the skins are rinsed off with water. Since the skin is swollen, any shaving down of the flesh side is done at this point. Shaving a skin is one of the greatest of tanner's skills. Some animals have hides so thick they will not dry soft for all the work in the world. A well-shaved skin is thin enough to be flexible but thick enough to be strong, and for each animal the tanner must know how deep the hair roots run so as not to cut them. Conveniently, the Milwaukee skins have already been shaved.

The skins are next put into a lactic acid tan. Interestingly, lactic acid is found in the bodies of the very same animals it ends up tanning. They remain in this tan for about five days. It is here that the skins are softened by the chemical splitting of their fibers.

folded and bagged for a few days to allow the oil and the wetness of the skin to emulsify. After this the skin is removed and hung to dry. As the water evaporates the oil sinks in.

When it is completely dry and has absorbed all the oil the skin is rewet and again folded and placed in a bag. This step is called the "sammy." It rehydrates the stiff skin so it is stretchy enough to work.

After a couple of days in the sammy the skin is ready for handworking, Large skins are softened on the beam. Small-

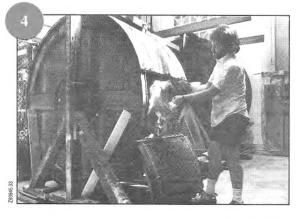
3. Upon removal from the tan, the skins are hung to dry for a few hours to prepare them for oiling. The oil we use is 10% neatsfoot oil, 90% mineral oil. Since most of this is mineral oil, which does not react with skin fiber, this is a very "low impact" oil in terms of conservation. The oil is heated and rubbed into the skin while hot. The skin is then neatly

After a couple of days in the sammy the skin is ready for handworking, Larger skins are softened on the heam. Smaller skins are softened on the "knee stake." The knee stake (left) resembles the metal end of a hoe that has been straightened out, rounded on its sharp corners, given a dull edge, and mounted vertically. The skin is worked back and forth over the edge of the knee stake. like a polishing cloth over the top of a shoe. It's called a knee stake because vou steady the stake by using your knee.



4. When the skin is almost dry its ears, and any claws or hooves, are covered with protective cards and the skin is placed with some sawdust into the tanning wheel, a six-foot wooden drum. As the drum turns, the skins are tumbled and stretched while they are dried by the sawdust. An hour or so later the skins are removed. The handwork and the tumbling complete the physical softening of the skin.

As a final step, the acidity of the skin is tested, the condition of the fur side and the flesh side is assessed, and the skin is accessioned into the collection. The entire tanning process takes about three weeks per lot (group) of skins, and at this point about 150 Milwaukee skins are tanned. They are stored under refrigeration and humidity control in one of our four tanned skin rooms. In these rooms are hung skin after skin of nearly every large mammal in the world: African lions and Alaskan grizzlies, Bengal tigers and American buffalo, snow leopards, reticulated giraffes, orangutangs, okapis—even a Saint Bernard. Scientists from the Field Museum and many other institutions make regular use of this collection.







WEST AFRICA: Ghana, Mali, and Songhai

February 19 to March 5

n Testa / FMNH 109421

While Europe lay mired in the Dark Ages, the Niger River Valley in West Africa gave birth to a series of great civilizations — those of ancient Ghana, Mali, and Songhai. For a thousand years, these empires were centers of intellectual, artistic, and cultural activity; today, despite colonial influences, the region has retained its ancestral traditions, its artistic and cultural diversity, and its overpowering natural beauty.

The tour will be guided by Deborah Mack, Ph.D., an anthropologist who is the senior exhibit developer of the

comprehensive exhibit on Africa now in preparation at the Museum. We begin in Dakar, Senegal, from which we'll explore Goree Island with its fort, slave house, and old colonial quarters, and visit with prominent artists and collectors. Then comes a three-day expedition to the bush country, including Saloum National Park, highlighted by a scenic canoe

exploration of river and mangrove swamps, a bird sanctuary, delta islands, and fishing villages of the many diverse ethnic groups of the area.

At Bamako in Mali, a predominantly modern town stretching along the River Niger, we'll visit the National Museum, which houses one of the best ethnographical displays in West Africa, and the Grand Marché and Artisans' Market, where skilled workers make beautiful leather goods and jewelry with primitive tools.

Other highlights include a two-day road excursion to the remote Dogon country where mud-hut villages stretch along a 125-mile cliff; a visit to legendary Tombouctou (Timbuktu) on the edge of the desert, where camel caravans still bring huge slabs of salt from northern Mali's Taudeni Mines; the major trade center, Mopti, packed with people in brightly painted pirogues selling their goods along the waterfront; and the ancient, picturesque town of Djenne in the Niger River Delta, whose elegant mosque is considered the best example of Sudanese mud architecture.

The tour is priced at \$6,850 per person (double occupancy).

Sepik River Cruise

Great Barrier Reef & Papua New Guinea January 17–31, 1992 (See Page 15)

Costa Rica: Tropical Adventure

November 27 - December 8

Baja California January 10-18, 1992

Egypt & the Nile by Yacht Jan. 26 - Feb. 15, 1992