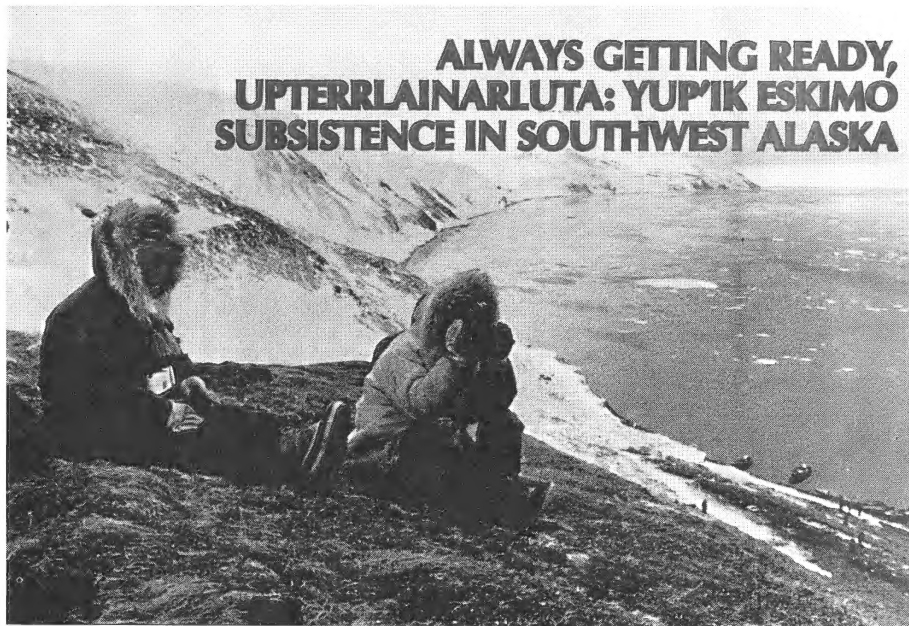


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In the Field

The Bulletin of The Field Museum

September/October 1995



**ALWAYS GETTING READY,
UPTERRLAINARLUTA: YUP'IK ESKIMO
SUBSISTENCE IN SOUTHWEST ALASKA**

PHOTOGRAPHS BY JAMES BARKER
WEBBER GALLERY • THROUGH NOVEMBER 12

CELEBRACIÓN '95
FESTIVAL OF LATIN AMERICAN CULTURES

Smithsonian Inst/Library Exch
10th St. & Constitution Ave N
See Note Pad
Washington, DC 20560

In the Field

The Bulletin of The Field Museum

September/October 1995

3

The Field Museum
Exploring
The Earth And Its
People

An undergraduate intern in the Botany Department discovers a new species of plant.

5-8

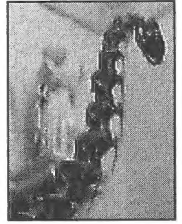
A complete schedule of events, including Celebración '95, a festival of Latin American cultures

10

The Museum's collection of Chinese jades spans every era since the Neolithic.

UPDATING EXHIBITS

While public attention has been focused on the spectacular permanent exhibits installed over the past ten years, the incremental work of updating, refurbishing, and relabeling standing displays goes on. **Story, Page 9**



DECLINE IN NORTH AMERICAN BIRD POPULATIONS

By Doug Stotz
Office of Environmental
and Conservation Programs

Over the last thirty years, scientists and birdwatchers have noticed that many forest birds of the eastern United States are declining. One pattern detected early on was that most of the species that were severely declining were species that wintered in the Neotropics, such as warblers, vireos and flycatchers. Almost immediately a tie between tropical deforestation and the decline of these migrant birds was made. However, several researchers also pointed out that many of the migrants were forest interior birds during their breeding season in North America. The researchers suggested that continuing forest fragmentation on the breeding grounds and increases in the subsequent cowbird populations were important potential suspects in the declines of these migrant birds. Recent work is helping clarify the relative impact that changes on the breeding grounds and wintering grounds in the tropics have had on migrant bird species.

One important study was recently published in *Science* magazine by Scott Robinson, an ornithologist at the Illinois Natural History Survey and a Research Associate of The Field Museum, and his colleagues. The study clearly points out some serious consequences that deforestation and forest fragmentation in North America have had on the breeding success of many species of "our" forest birds. Robinson and his colleagues studied the breeding success of songbirds that breed in forests of the upper Midwest. They compared the rates of both nest parasitism by Brown-headed Cowbirds and nest predation across the upper Midwest, from Missouri to Wisconsin. Remaining forest cover near their study sites ranged from less than 10 percent to more than 90 percent forested. They examined nesting success in nine species of birds (eight migrants — Acadian Flycatcher, Wood Thrush, Red-eyed Vireo, Ovenbird, Kentucky Warbler, Hooded Warbler, Scarlet Tanager, and Indigo Bunting — plus the resident Northern Cardinal). Robinson and his colleagues found that cowbird parasitism and nest predation increased with increasing deforestation or fragmentation. For five of the eight migrants (Wood Thrush, Scarlet Tanager, Ovenbird and the two other

warblers), rates of nesting success are so low in heavily deforested regions that the birds cannot maintain their populations without immigration from other more intact regions. The other species studied also suffer greater predation and parasitism in deforested regions, but do produce enough young to maintain their populations. The researchers conclude that the loss of forest habitat and forest fragmentation are having severe impacts on the breeding success of migrant birds.

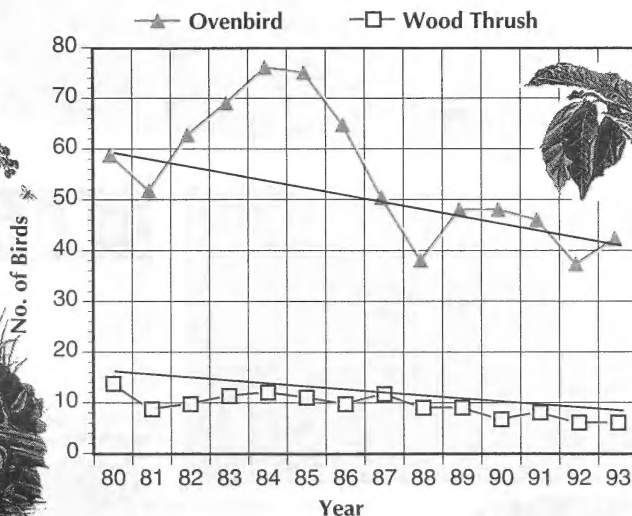
In Robinson's study, Illinois was the state with the greatest level of deforestation. It is perhaps not surprising that in an ongoing project with my colleague Dave Willard, looking at birds that get killed striking a Chicago lakefront building during migration (previously described in *In the Field*, January/February 1995), we have found that Wood Thrush and Ovenbird, the two forest interior species of Robinson's study for which we have enough data, show declines during our study.

Tropical deforestation's effect on migrant bird populations, the subject of much discussion and concern, has greatly influenced conservation plans for many tropical regions. Together with John Fitzpatrick (former curator of birds at The Field Museum), the late Ted Parker, and Debra Moskovits (my colleague in the Office of Environmental and Conservation Programs), I have written a book entitled *Neotropical Birds: Ecology and Conservation*. In the book, which is being published by the University of Chicago Press and is due out this December, we discuss a number of issues related to conservation in the New World tropics. Among the topics we examined were the distribution of migrants on their wintering grounds and the location of threats to them. Are the

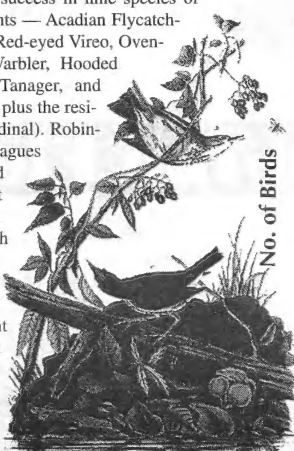
threats to migrants already at risk of extinction primarily on the breeding grounds in North America or on their Neotropical wintering grounds? We found that, in general, migrants are not very sensitive to forest destruction on their wintering grounds. Why? Because migrant birds tend to be widely distributed in winter and they are tolerant of secondary habitats — the vegetation that grows in place of cut-down forests. Among the migrants currently at risk, impacts on the breeding grounds, especially habitat destruction and fragmentation with the subsequent increase in nest parasitism and predation, appear to be the most serious threat.

We also recognize, however, that a few migrant birds have small wintering ranges and use only intact forests during the winter. Unfortunately, among these exceptions are three of the species — Wood Thrush, Kentucky Warbler, and Scarlet Tanager — that Robinson and his colleagues found are suffering unsustainably high predation and parasitism on their nests in heavily deforested parts of their breeding range. Scarlet Tanagers winter on the forested lower slopes of the Andes mountains in South America. The other two species winter in the forested lowlands of Central America. Both the Andes mountains and the Central American lowlands are suffering rapid deforestation. When added to the stresses also placed on these same species on the breeding grounds, it is small wonder that these are among the species showing the most severe population declines over the past few decades. However, it is important to understand that to place the blame for the birds' decline on tropical deforestation alone overlooks the tremendous effects of habitat alteration right here in the United States.

from the Co-ROM Multimedia Audubon's Birds (Creative Multimedia Corporation)



The Wood Thrush (above) and Ovenbird (left) are among the species tracked in a study of migratory bird populations in Chicago. Both are under stress from deforestation.



HIGH SCHOOL INTERNS AT THE FIELD



By Willard L. Boyd
President, The Field Museum

From the Museum's inception, generations of young people have been stimulated by our public exhibits and programs to pursue careers in biology, geology, anthropology, and museum work. While they have not received formal credit for learning, they have given the Museum much credit for learning. As a young visitor, paleontologist Donald Johanssen of "Lucy" fame received great motivation from his Field Museum visits. During high school, University of Iowa zoology professor Richard Bovbjerg decided to read every label in the Museum; he did so on Saturday afternoons for three years. Recently the Founders' Council honored James Dewey Watson, who shared the Nobel Prize for DNA. In high school Dr. Watson worked as a volunteer in our Birds Division.

In addition to our extensive school and park programs, we have been increasing the number of special in-depth learning opportunities for high school students at the Museum. The summer of 1995 was a particularly active one for these talented young people.

The Biodiversity Explorers is an eight week summer program for Chicago area high school juniors. Funded by the Bannerman Foundation, the program introduces students to the museum, environmental biology, and collections-based research through a program of field work, laboratory work, lectures and museum tours. This year, the first year of the program, five exceptional students joined Associate Curator Greg

Mueller's survey of the macrofungi (mushrooms) of the Chicago area. The students went on collecting field trips three times a week to survey plots set up in the Indiana Dunes and the Chicago For-

est Preserves. Two days a week they processed specimens for the collections and entered their data into the macrofungi computer database. The students participating in the program were: Alexander Janus (Evanston Township High School), Inkyong (Irene) Lee (Lincoln Park High School), Ismail Morrar (Kennedy High School), Elizabeth Salgado (Benito Juarez High School), and Giang (Monique) Tran (Riverside/Brookfield High School). The students were led in their efforts by Jack Murphy, post-doctoral fellow in mycology.

In 1993, Greg's high school intern, Elizabeth Pine, won the national Westinghouse Science Talent Search award for her Field Museum research project funded by the Donnelley Family Research Fund.

The J. Howard and Barbara M.J. Wood Fund provides a twelve week summer internship for two Chicago-area high school students to work in the collections area of his or her choice. This program was inaugurated this past summer. Douglas Kushla, a senior at Evanston Township High School, worked in the mammal collection and preparation laboratory while Anthony Amend, a recent graduate of Francis Parker High School, worked with Greg Mueller's group.

Another Museum internship program trains women and minority students to do collections-based research on biological diversity. In this program, funded by the National Science Foundation, the interns work closely with Field Museum scientists, working with collection specimens and developing and conducting their own research projects. Wil-

helmina Assis, a recent graduate of Hubbard High School, is working with Peter Crane, Vice President for Academic Affairs, in the paleobotany laboratories. She has been working to identify plant fossils in ancient pond deposits.

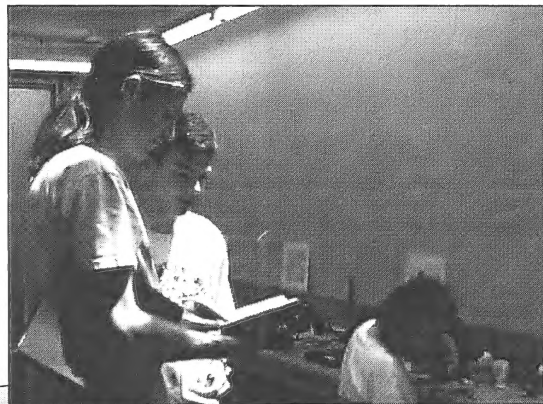
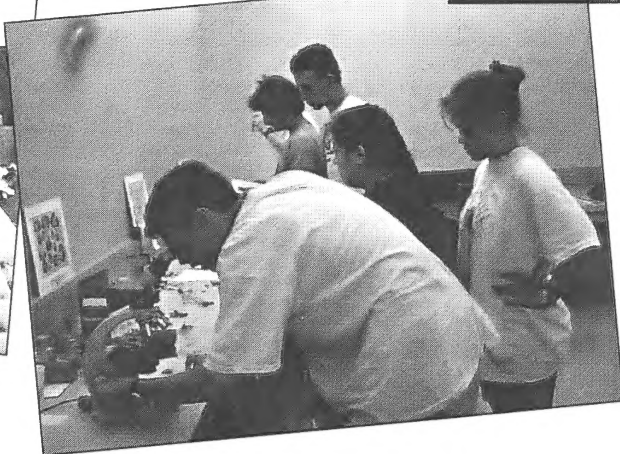
Fifteen teenage volunteers brought enthusiasm and an ability to relate to families and children to our special summer exhibit "Masters of the Night: The True Story of Bats." The teens contributed twelve to twenty hours a week staffing activities in Stanley Field Hall and outside and inside the exhibit, especially as interpreters next to the live bat section of the exhibit and with a "do it yourself" shadow bat puppet theater.

Their bat-related activities also included "Compare-a-Bat," where they showed specimens of local bats and compared bird and bat skeletal structures. They also informed visitors how to attract bats to their neighborhood with bat houses, and they described through stories and maps how different cultures perceive bats.

During the school year we sponsor the Chicago High School Museology Program. Now in its 25th year, the course is designed for twenty students entering their junior or senior year who are recommended by their counselor

In the 1995 Biodiversity Explorers program for high-school juniors, students collected and classified mushrooms in a formal survey of Chicago-area macrofungi. Jack Murphy, post-doctoral fellow in mycology (at left in top right photo), guided their work.

Photos by Ron Dorfman



and teacher. The class meets one weekday afternoon during the academic year and students receive one Social Studies and one Science credit. Students study the operation of museums and particularly The Field Museum, with introductions to collections, research, and education programs.

They also assist with "overnights" and Member's Night.

Increased mentoring efforts are a key objective for the Museum. At the same time we are working harder than ever to have our exhibits engage young people. While we do not expect high schoolers to read every label in the Museum, we do want to challenge them to read many.

VOLUNTEERS NEEDED

Persons interested in learning and teaching about MesoAmerica — the area that stretches from central Mexico to northern Costa Rica — are encouraged to sign up for four training sessions beginning in early September. Graduates will give school-tour programs on "The Early Maya Civilization" and "The Tenoch Mexica (Aztec) Empire and Their Predecessors."

Weekday volunteers are needed for school programs one day per week; weekend volunteers for visitor programs and hands-on activities two weekend days per month. Training sessions will be held Wednesdays for weekday volunteers and Saturdays for weekend volunteers, 9 a.m. to 3 p.m. Call the Searle Volunteer Coordinator at (312) 922-9410, ext. 360.

In the Field

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The Field Museum
Exploring
The Earth And Its
People

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SOPHOMORE'S DISCOVERY

By Jason B. Hamlin

Michael Eakes, one of this summer's student interns at The Field Museum, is a rather unassuming undergraduate with an aura that suggests sincere appreciation that he's working in a world-class research institution instead of the local pizza shop. He came to the Museum hoping to broaden his horizons, but he did much more than that: He discovered a previously unknown species of plant.

Working with Thomas G. Lammers, assistant curator of botany, Eakes examined a close-knit group of populations of the plant genus *Lobelia* known as the *laxiflora* complex, which extends from southern Arizona south throughout Mexico and Central America into southern Colombia. Earlier researchers had disagreed on how many species these populations represented, some recognizing three, others five or six. In order to resolve the problem, Lammers had Eakes take a new approach: computer analysis of a large set of characteristics from a representative sample of specimens.

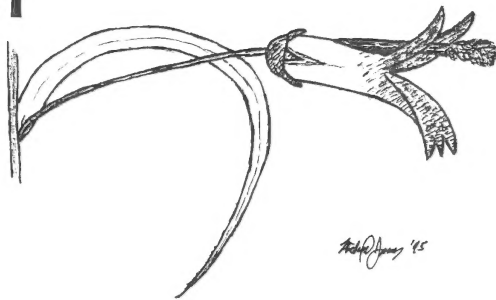
Eakes measured and plotted more than one hundred characteristics for each of 70 specimens. In the resulting computer sort, most of the samples fell into three distinct clumps, which corresponded to three species recognized by earlier botanists. But Eakes's analyses also disclosed a *fourth* clump of samples, which did *not* correspond to any previously described species. Though clearly part of the *laxiflora* complex, this clump was as different from the other three as they were from each other. Careful re-examination of the specimens confirmed the computer's conclusions: These samples, all from high-elevation pine-oak forests in the Mexican state of Guerrero, represented a previously unknown species of *Lobelia*. Eakes named it *guerrerensis* after its homeland.

The results of Eakes's summer sojourn into

botanical research will be presented at next year's meeting of the American Society of Plant Taxonomists, and the formal Latin description and christening of *Lobelia guerrerensis* submitted for publication in the society's journal, *Systematic Botany*.

The discovery of a new species of plant is a fairly common occurrence. With many ecosystems barely explored, and back-logged samples in the world's herbaria, new species may be simply awaiting a botanist's careful examination. But for a 19-year-old student, and a non-botanist at that, the discovery of a species is truly remarkable. Eakes attributes his ability to do so to the use of computers and detailed statistical data.

Eakes, a sophomore at the University of Illinois at Champaign-Urbana, plans to finish his undergraduate studies in computer science and hopes to move on to botany at a post-graduate level. "Coming to the Field Museum is the best decision I could have made for my career," says Eakes with a smile. He perhaps knows that James Dewey Watson did volunteer work in the Museum's birds collection and went on to win the Nobel Prize as the co-discoverer of the double-helix structure of DNA.



Drawing of the leaf and flower of *Lobelia guerrerensis*.

Summer intern Michael Eakes (left) and curator Thomas Lammers with the type specimen of the plant species Eakes discovered, *Lobelia guerrerensis*.



Jason B. Hamlin

'AFRICA' IS FORUM TOPIC

By Susan Nelson
Rapporteur, The Nuveen Forum

Where and how did Africa's history get lost? How have African peoples and resources had an impact on American life? And how should we educate Americans about our African heritage?

These were the questions for discussion July 25 in "Africa's Meaning for All Americans," the first of nine programs in the Museum's Nuveen Forum, "Teaching Culture and Cultural Teachings: Conversations on Culture and Identity in America."

The series is part of a National Endowment for the Humanities project entitled "National Conversation on American Pluralism and Identity." The Museum's "conversations," with additional support from the John Nuveen Company, will run through June 1996.

Some 200 persons attended the opening session, which was introduced by Alaka Wali, director of the Nuveen Forum and also of the Museum's Center for Cultural Understanding and Change. Chapurukha Kusimba, curator of the Museum's African collections, gave an overview of the continent's million-year-long cultural, technological, and biological tie to the rest of the world.

The evening's panel of seven other anthropologists and community leaders included Deborah Mack, senior developer of the Museum's "Africa" exhibit, who traced the change in per-

ceptions of Africa to the medieval period and particularly to trade with Portugal and Spain, when raw materials rather than cultural richness were pursued. Rev. Michael Pfleger, activist priest of the Community of St. Sabina, suggested that ignorance of Africa is the result of a "strategy of misinformation."

Members of the audience joined in. Museum volunteers in the "Africa" exhibit spoke of frustrations they face with ill-prepared educators and children; someone cited the negative tone of a local newspaper's series of articles on Africa. When the program closed, a sizable group of people stayed on to continue their own conversations.

Considering the evening a few days later, Wali noted that people today are reluctant to talk about issues of great importance. "Yet talk in itself is a very powerful action to undertake," she said, and conversations like those planned for the Nuveen Forum offer an opportunity "to counteract society's lack of dialogue and discourse [and] fill a vacuum in the public arena." Further, she said, the Museum's conversations are permitting anthropologists and other experts to share some of their findings about humans and their cultures.

The second program, "The Creation of National Identity," will be held September 7 from 5:30 to 8:30 p.m. and will follow the same format. The MesoAmerica exhibit and the role that Aztec (Nahua) and Mayan civilizations played in nation-building will serve as examples to be discussed during the evening's structured conversation.



John Weinstein / GNE/524.17

Panelists will include Migdalia Rivera, executive director, Latino Institute; Charles Stanish, Field Museum anthropologist; Charles Branham, historian, DuSable Museum of African American History; Faith Smith, president, Native American Educational Services College; Carlos Tortolero, executive director, Mexican Fine Arts Center Museum; and Kathleen Adams, Loyola University anthropologist.

Admission is free, but tickets are required. For more information, or to reserve your ticket, please call (312) 922-9410, ext. 530.



John Weinstein / GNE/524.5

Some of the audience of 200 attending the first in the Museum's nine-part Nuveen Forum series. Left, Alaka Wali introduces the program.

DISCOVERING YEMEN

By Willard E. White
Vice President, Institutional Advancement

Say "coffee" and I immediately think "Yemen." Somewhere in early schooldays the association of coffee and Yemen took hold. I remember that Yemen first cultivated coffee on a commercial scale and dominated the world coffee market until the Portuguese smuggled the precious plants, which were as valuable as gold, to Brazil in the 17th century, breaking forever Yemen's monopoly.

Only recently did I visit Yemen as part of a delegation of four college professors, one banker, one museum officer, and the founder of the National Council on US-Arab Relations. Only by visiting this ancient land did I realize that coffee grows in cool upland terraces which are ideal for a menu of delectables — apricots,

grapes, peaches, walnuts, and almonds, for examples. At lower altitudes figs, dates, and melons abound. Yemen, so varied in topography and climates, is agriculturally productive, far beyond my limited knowledge of ancient commodities — frankincense and myrrh, and (of course) coffee.

Sitting on the rooftop of Arabia, Yemen is physically spectacular, another discovery for me. On the drive from Sana'a to Marib, where the Queen of Sheba once ruled, we entered what looked like the Grand Tetons and Monument Valley, only much grander. Another day, driving west to Hodeidah on the Red Sea, we crossed even higher elevations where Yemenis, the legendary builders and engineers of the Middle East, constructed highrise villages, houses of seven and eight stories each, bundled together like Mont-Saint-Michel on mountain peaks and rocky ledges, defensible and cool.

Terraces and irrigation transformed entire mountainsides into productive cropland thousands of years ago. Today, in upland districts, donkeys and human labor continue age-old farming practices; along the lowland river beds leading to the sea, camels are the farmer's best of burden.

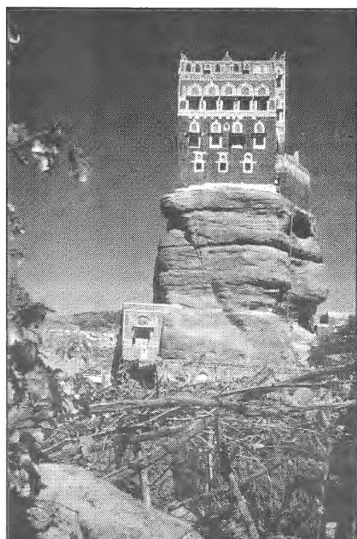
The past is visible everywhere in Yemen, but most vividly in the UNESCO World Heritage Sites of Old Sana'a and Shibam, two "tower" cities with houses and mosques and suqs dating from the 10th and 11th centuries. Shibam, built centuries ago of mud bricks, is only now endangered by neglect and the accumulation of moisture from modern plumbing.

Up close, Yemen reveals an older and more traditional Arabia moving into the present, decades after their oil-rich neighbors made the leap. Yemen has not yet developed its mineral and gas resources — nor, for that matter, the full potential of its agriculture and tourism. Economic stagnation is the real legacy of political conflict and civil war. Yemen's immediate challenge is to harmonize two different societies and two different economies, one capitalist, the other Marxist — a task much like the reintegration of East and West Germany.

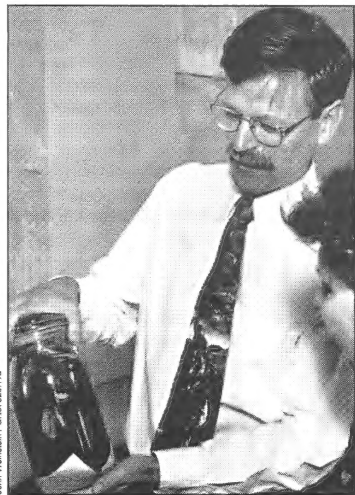
Yemen welcomes visitors who come with an eye for appreciating what this special country offers — its beauty, its history, its culture. Yemen's leaders understand the importance of educational tourism, programs like The Field Museum's, which help us explore and appreciate cultures other than our own. Yemenis would like very much to see more Americans among the Europeans who visit. In my recent trip, we traveled in safety and comfort over great distances, warmly welcomed everywhere. Yemeni hospitality is another national asset.

I am organizing a Field Museum trip to Yemen and Oman, two distinctly different nations, scheduled for September or October 1996. Oman is Yemen's eastern neighbor on the Arabian Sea, a sultanate which is as tidy as Switzerland, politically stable and moderate in all things. Oman invests its oil and gas dividends to preserve its past — over three hundred forts and castles are maintained — even as it invests in roads, harbors, industrial centers, hospitals, hotels, schools and telecommunications to support its march into the twenty-first century.

Both Yemen and Oman encourage a visit. This is an invitation to discover and explore a world not imagined by most Americans. Please phone for additional information about our upcoming Arabian adventure for Field Museum members: (312) 322-8857.



Yemen's House on the Rock, the summer palace of the Imam Yahya, was constructed in the 1930s on foundations and ruins of prehistoric buildings. Located at Wadi Dhahr, a short drive from Sana'a, Yemen's capital.



Bruce Patterson

IN ADVANCE OF AN EXHIBIT OF Modern Japanese Ceramics

OPENING IN NOVEMBER

The Museum's main store is featuring an unusual array of newly purchased Japanese-made or -inspired giftware. Included are:

Ceramic Tea Sets in a variety of styles and sizes and in a rainbow of colors • **Chopstick Sets**, many hand-carved and hand-painted, available individually or in complete sets • **Sake Sets** • **Lacquer Serving Ware** including trays, sushi sets, rice bowls, and decorative boxes • **Hand-made Porcelain and Silk Dolls** • **Ceramic Tabletop Items** in a variety of canapé plates, bowls, and platters • **Rice Paper Wallets/Purses** • **Decorative Porcelains** including platters, plates, and figurines.

All of this fresh new giftware is on display now and is available in a broad price range. As always, Museum members receive a 10% discount on all purchases.

The Shops of The Field Museum
OPEN 10 A.M. TO 5 P.M. DAILY

60 FOR BRUNCH

Sixty members and guests attended the first Members' Brunch July 23, a family-style buffet in the Rice Wildlife Research Station with a slide-lecture on Peruvian bats by Bruce Patterson, curator of mammals.

Patterson's lecture, "Life after Dark in the World's Richest Park: The Bats of Manu," focused on his continuing research in the Manu Biosphere Reserve of Peru, which is home to about 130 species of bats.

The lecture highlighted the differences between fruit- and insect-eating bats and blood-drinking vampire bats that prey on livestock. Patterson highlighted the important role bats play in helping to maintain complex ecological systems by pollinating indigenous plants and controlling insect populations.

CALENDAR OF EVENTS

IN RECOGNITION OF NATIONAL ARTS AND HUMANITIES MONTH, THE FIELD MUSEUM PRESENTS

CELEBRACIÓN '95

The Field Museum celebrates the heritage and diversity of the many Latin American countries October 9–14. Visitors will meet and talk with Museum scientists who work in Latin America, find out how our botanists conduct research in rain forest or mountain areas, see some of the plant specimens they have collected, and learn how the Museum's research collection is used to produce plant field guides for other countries. You can make a plant specimen sheet to take with you. Anthropologists will share information about their research in the Andes and Amazonia. Join us for ongoing interactive demonstrations and enjoy traditional music and dance.

The festival will kick off Monday, October 9 with the Aymara Boat Builders of Bolivia. They will demonstrate how the Aymara people fashion reeds into boats. See the Highlights page for Saturday's activities, which include food and beverage tasting from Latin America, and the Visitor Programs page for a complete schedule of activities. School and community groups are encouraged to participate in *Celebración!* on October 9, 10, 12, and 13. Programs for the general public are on Saturday, October 14. For more information, call (312) 922-9410, ext. 497 or 288.

Performances:

Gilberto Gutierrez y su grupo Jarocho: Dance and music from Veracruz, Mexico.
Latin American Journey: Join Nelson Sosa on a wonderful trip to Latin America through music.

Renacer Boliviano:

Children's dance performance from Bolivia.
Mi Lindo Panamá and *Viva Panamá:* Music and dance from Panama.

Machu Picchu:

Indigenous music of Peru, Bolivia and Ecuador.
Grupo Musical Colombiano: Traditional music and songs of Colombia.

Hands-on Activities:

Food Interchange: Learn how foods developed in different parts of the world were interchanged when two hemispheres met.

Name that Country: Match the names, flags, and countries on a puzzle map of the Americas.

Amazing Maize: Use the "mano" and "metate" to grind "ixtamal" to make tortillas and tamales.
Maya Math: Learn the math system the Maya used to track time, history and the stars.

What Pottery Tells Us: Play a shard matching game to find out about the importance of pottery and what styles are still being imported from Mexico.

What's a Quipu? Learn how to count without writing numbers. The Inca developed a very elaborate system that is still used in some areas of present day Peru.

An Engineer's Tool: The native peoples who built the great cities and empires of Latin America were superb engineers. Find out how they used their main instrument, the surveyor's level.

Demonstrations:

Aymara Boat Builders: Learn how the Aymara people of Bolivia fashion reeds into boats.

Games from Peru: Play with the "bolero" and other Peruvian toys. Meet Cesar Izquierdo, who is a whiz at these games.

Te Mate: Taste a South American beverage and discover where it is popular.

Traditional Cassava Bread: Cassava, manioc, and yucca all mean the same thing: a root crop that has been a staple for people of the tropical rain forest. Help make cassava flour the traditional way and have a taste of this unique bread.

Chile Peppers: Learn about the most popular chile peppers in Latin America. Make a paper chile pepper to take home.

Haiti on Wheels: Is Haiti a part of Latin America? Let Max Louis and Alette Presoir tell you about Haiti's history and culture.



National Arts and Humanities Month

October



THE SAGEBRUSH OCEAN

The Great Basin Desert is a vast land that covers most of Nevada, the West Desert of Utah, parts of Oregon and Idaho, and California east of the Sierra and Cascades. For humans the Great Basin remains an enigma — its sandy dunes and dry lake beds are still largely untouched by development.

The Great Basin has been studied by only a few scientists, historians, and geologists. Stephen Trimble, a naturalist, has spent more of his life in this region than out of it. Trimble's experience with the Sagebrush Ocean began when he would accompany his father, a geologist with the U.S. Geological Survey, to the area.

We think historically of covered wagons and settlers of the 1800s passing through the Sagebrush Ocean, but not of much more. Says Trimble, "Time, climate, life, and history have not yet culminated here."

Trimble has spent years exploring the various forms of life in the Basin. From sage to jackrabbits bounding from bush to sand, the Basin is filled with life.

Winner of the 1991 Ansel Adams Award, Trimble has put together this exhibit of 83 photographs, along with lyrically written insights to give a new awareness of one of North America's major landscapes.

Trimble's exhibit of the Great Basin appears in photographic and essay form in the South Gallery through October 2.



Two photo exhibits explore two different worlds. Above left, a Stephen Trimble photograph of a frosted dune at Crescent Dunes, Big Smoky Valley, Nevada. Above right, two hunters from Toksook Bay, Alaska study the ice conditions, in a photograph by James Barker.



UPTERRLAINARLUTA

Upterrlainarluta, or "always getting ready," is the subject for a current Field Museum photography exhibit. The Yup'ik culture is one of subsistence. Photographer James H. Barker discovered this first hand when he first visited Alaska's Yukon-Kuskokwim Delta.

The Yup'ik Eskimo's ability to gather food and sustain shelter is both a honed skill and a simple necessity. Barker studied the area where The Yup'ik live a life of subsistence, one in which they are "Always Getting Ready."

In the exhibit, "Always Getting Ready, Upterrlainarluta: Yup'ik Eskimo Subsistence in Southwest Alaska," Barker's 19 years of photography in the Yukon-Kuskokwim Delta examines the subsistence cycle from spring seal hunting to winter dancing.

This exhibit appears in the Webber Gallery through November 12. The exhibit explores how a culture survives in what seems to be an unlivable climate.

9/7 Thursday
The Nuveen Forum

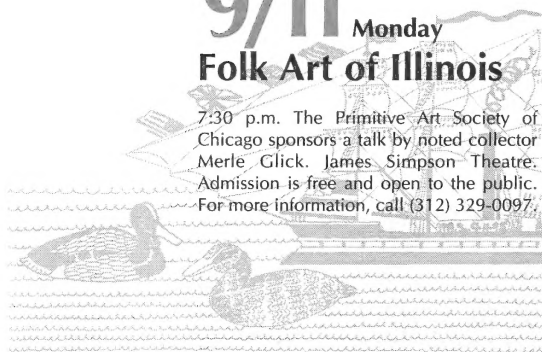
5:30 to 8:30 p.m. "The Creation of National Identity" is the topic for the second in the Museum's series of conversations on culture. The MesoAmerica exhibit and the role that Aztec (Nahua) and Mayan civilizations played in nation-building will serve as examples.

The third conversation in the series will be held October 11 from 8 - 10:30 a.m. The topic is "New Voices, Old Themes: Representing Change Over Time."

Admission is free, but tickets are required. For more information, or to reserve your ticket, call (312) 922-9410, ext. 530.

9/11 Monday
Folk Art of Illinois

7:30 p.m. The Primitive Art Society of Chicago sponsors a talk by noted collector Merle Glick. James Simpson Theatre. Admission is free and open to the public. For more information, call (312) 329-0097.



9/16 Saturday
Bird Watching at Horicon Marsh

9 a.m. Fall brings a variety of migrating shore and songbirds to Horicon Marsh in east-central Wisconsin. Enjoy a premier "birding" spot on this all-day tour. \$47 (\$40 members). Call (312) 322-8854 to register.

9/18 Monday
Nature Camera Club

7:45 p.m. The Nature Camera Club begins a new year of activities with a slide lecture. The club meets in Lecture Hall 2; entry is through the west door. For more information call Bill Burger at (312) 922-9410, ext. 318.

9/22 Friday
Women's Board Fashion Show

11:30 a.m. The Women's Board and Marshall Field's 28 Shop present a fashion show in James Simpson Theatre featuring the Geoffrey Beene Fall 1995 Collection and a special guest appearance by Geoffrey Beene. A luncheon will follow in Stanley Field Hall at 12:30 p.m. Tickets are \$60 per person. Please call the Women's Board office for reservations and information at (312) 322-8870.

9/23 Saturday
Family Overnight

5:45 p.m. Saturday to 9:00 a.m. Sunday. This is the last Family Overnight of the year. Adults accompanied by children grades 1 - 6. \$40 per participant (\$35 per member participant). Preregistration is required. Call (312) 322-8854 for space availability or more information.

9/24 Sunday
Ethnographic Film

2:00 - 4:30 p.m. Since the 1920s, anthropologists have experimented with film in an attempt to record the lifestyles of various cultures. The Field Museum has in its archival collection a wide array of ethnographic films rarely seen by the public. Join us for an afternoon of thought-provoking films that center on the artistic expressions of people throughout the world. We will pay particular attention to the accuracy and subjectivity of these films, as well as the impact of Western modernization and aesthetic ideals on traditional artistic techniques. \$7 (\$5 members). Registration is required. Call (312) 322-8854 for more information.

9/30 Saturday
Exploring Ancient Egypt

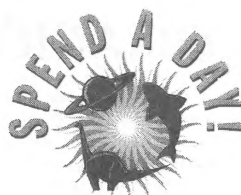
9 a.m. - Noon. A new teen workshop, Archaeologist for a Day: Exploring Ancient Egypt, is just one of the many programs for fall. For more information, see the "Get Smart" page opposite. Teens, Grades 7 and up. \$20 (\$18 members).

9/30 Saturday
The Private Life of Plants

3 p.m. Sir David Attenborough, the internationally renowned British author, will discuss his newest book, *The Private Life of Plants*. For more information, see the "Get Smart" page opposite. \$7 (\$5 members).

10/9 Monday
Color Photography Competition

7:45 p.m. The Nature Camera Club will hold a color slide competition for any photographs of nature, with commentary by the judges. The Nature Camera Club usually meets the second Monday of each month, September through June. For more information, call Bill Burger at (312) 922-9410, ext. 318.



ADLER • FIELD • SHEDD
MUSEUM CAMPUS

10/14 Saturday
5K Family Fall Walk

9 a.m. - 1 p.m. We invite you to start your day with a 5K Family Fall Walk to The Field Museum, the Shedd Aquarium and the Adler Planetarium beginning with breakfast at the Chicago Hilton and Towers at 8 a.m. The three lakefront museums have collaborated with the nearby hotel on this event which includes a scavenger hunt and activities at each museum, as well as prizes and a certificate of completion from the Chicago Hilton and Towers. A discounted "Spend A Day" ticket, which admits guests to all three museums, is available to all registered participants. To receive your Family Fall Walk registration form, contact the Museum's Public Relations Office at (312) 322-8859. The Chicago Hilton and Towers is offering a special weekend package to all participants. For reservation information, call the Hilton at (312) 922-4400 and ask for the "Spend A Day" rate.

10/14 Saturday
Celebración '95

11 a.m. - 3 p.m. Celebrate the heritage and diversity of many Latin American cultures at The Field Museum. Visitors will sample foods and beverages of Latin America; enjoy colorful performances by renowned dancers and musicians; participate in craft demonstrations and hands-on activities related to Latin American culture; and meet and talk with Field Museum scientists about their current research in Latin America. Celebración '95 is free with regular Museum admission. For more information, call The Field Museum Education Department at (312) 922-9410, ext. 497 or 288.

11/2 Thursday
'Ancestral Passions'

7 p.m. Virginia Morell, science writer for *Discover* and *Science* magazines, presents an historical overview of Louis, Mary, and Richard Leakey, the first family of anthropology, based on her book *Ancestral Passions: The Leakey Family and the Quest for Humankind's Beginnings*. Ms. Morell used private family papers and letters as well as interviews and photos to document the Leakeys' story. Copies of the book will be available for purchase and signing. \$7 (\$5 members). Call (312) 322-8854.

'BACK TO SCHOOL' FOR ADULTS, TEENS, AND CHILDREN

In keeping with the annual "back-to-school" theme, each fall the Museum offers its largest selection of educational programs. For more information about these programs and to receive a copy of the fall *Field Guide*, please call (312) 322-8854. A few of our brand-new programs are:

New Adult Offerings:
(Registration is required for all programs.)

Artistic Expression on Film:
Selections from The Field Museum Archives
Sunday, September, 24, 2 - 4:30 p.m.

The Field Museum has in its archival collection a wide array of ethnographic films which rarely have been seen by the public. Join us for an afternoon of thought-provoking films that center on the artistic expressions of people throughout the world. See the listing on the Highlights page, opposite. \$7 (\$5 members). Registration is required.

Lecture/Workshop: Maya Hieroglyphic Writing — The Inscriptions of Yaxchilan
Lecture: Friday, October 6, 7 p.m.
Workshop: Saturday and Sunday, October 7 and 8, 9 a.m. - 5 p.m.

Spend a weekend learning to decipher Maya glyphs with Maya hieroglyphs experts Dr. Kathryn and Dr. Nick Hopkins from Florida State University. The weekend opens with a lecture on the "Royal Women of Yaxchilan" with a focus on the role of women in classic Maya society. During the workshop, beginners and more advanced participants will examine the nature and content of the writing system and learn to decipher the major inscriptions at the Yaxchilan site. Lecture is included in the workshop price. Registration is required. Lecture only: \$7 (\$5 members) Workshop: \$100 (\$85 members; \$75 students/seniors)

SCIENCE IN ACTION: TOUR BEHIND THE SCENES AT THE FIELD MUSEUM

Join Museum staff for a special behind-the-scenes exploration of the scientific collections and research at The Field Museum. You will see the collections — more than 21 million specimens and artifacts that illustrate the world's cultural, biological, and geological diversity — first hand and talk with staff about how the collections are prepared, managed, and used for scientific research and interpretation in exhibits.

The Museum's new behind-the-scenes tours for adults and families will take place during the day, giving you the opportunity to visit a variety of research and collection areas. Group size is limited to 15 to allow for a personal and in-depth experience. Take this opportunity to introduce a friend to The Field Museum. The fee is \$12 per person for members; \$15 for non-members. You may choose one of the following themes: "Africa," "Extinction," or "Exploring the Americas." These tours will be offered on different days between 10 a.m. and 4:30 p.m. during November and early December. Complete tour descriptions, dates, and registration information will be available in mid-September. Please call (312) 322-8854 for more information or to leave a message with your name and address to receive information by mail.

New Adult Courses:
Mystic Ancient Egyptian Art
Tuesdays, October 10 - November 14,
7 - 9 p.m. \$75 (\$65 members)

Tibetan Culture: Past and Present
Tuesday, October 17, 6 - 8:30 p.m. \$18
(\$16 members)

How Do Flowers Get Their Names?
Saturday, October 21, 9 a.m. - 2 p.m. \$37
(\$32 members)

New Teen Workshop:
Archaeologist for a Day:
Exploring Ancient Egypt
Saturday, September 30, 9 a.m. - noon

Tour the Museum's "Inside Ancient Egypt" exhibit and learn how artifacts are collected, dated, and interpreted to reconstruct ancient Egyptian society. Participate in a simulated "dig" as you and your team excavate the site and record the data. Study the artifacts and see what conclusions you can make about the peoples' lives and their society. Instructors will give personal insights into their study of archaeology and answer questions about careers in archaeology. Teens Grades 7 and up. \$20 (\$18 members)

New Family Workshop:
Beyond the Bat Cave
Saturday, October 28, 10 a.m. - noon

Batman is portrayed as a dark and mysterious character and bats seen in Halloween decorations usually reflect our misconceptions that bats are evil and dangerous. In reality, bats are beneficial creatures that help control the insect population and play a key role in plant pollination. Get a close look at bat specimens and make a bat puppet. Adults and children grades K - 4. \$9 per participant (\$7 per member participant)



DAVID ATTENBOROUGH ON 'THE PRIVATE LIFE OF PLANTS'

Renowned British author, broadcaster, producer, and host of numerous programs on zoology, archaeology, botany, and the natural world, Sir David Attenborough will discuss his newest popular science book, *The Private Life of Plants*. Illustrated with more than 250 time-lapse and close-up photographs, the book details how plants work as living organisms and engage in a constant struggle for survival. Sir David is a Trustee of the British Museum, an Honorary Fellow of Clare College, Cambridge, and Fellow of the Royal Society. In 1988, he received the Award of Merit from The Field Museum's Founders' Council — its highest honor. After the lecture, *The Private Life of Plants* will be available for purchase and signing.

Saturday, September 30, 3:00 p.m. \$7 (\$5 members).

Call (312) 322-8854 for more information or a copy of the *Field Guide* brochure.

Become a Member of The Field Museum and receive these benefits:

- Free general admission
- Free priority admission to "Life Over Time"
- Priority admission to special exhibits
- Free coat checking and strollers
- Invitation to Members' Night
- Free subscription to *In the Field*
- 10% discount at all Museum stores
- 10% discount at Picnic in the Field
- 13-month wall calendar featuring exhibit photographs
- Reduced subscription prices on selected magazines
- Opportunity to receive the Museum's annual report
- Use of our 250,000-volume natural history library
- Discount on classes, field trips, and seminars for adults and children
- Members-only tour program
- Opportunity to attend the annual children's Holiday Tea
- Children's "dinosaur" birthday card

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

Please enroll me as a Member of The Field Museum

Name _____

Address _____

City _____

State ____ Zip _____

Home phone _____

Business phone _____

GIFT APPLICATION FOR

Name _____

Address _____

City _____

State ____ Zip _____

Home phone _____

Business phone _____

GIFT FROM

Name _____

Address _____

City _____

State ____ Zip _____

Home phone _____

Business phone _____

- MEMBERSHIP CATEGORIES**
- Individual - one year \$35 / two years \$65
 - Family - one year \$45 / two years \$85 (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 — and more
- Founders' Council - \$1,500

Send form to: Membership Department, The Field Museum, Roosevelt Road at Lake Shore Drive, Chicago, Illinois 60605

VISITOR PROGRAMS



Dancers from Conjunto Folklorico Viva Panama and Conjunto Folklorico Mi Lindo Panama will perform on Saturday, October 14 as part of Celebración!

Saturday, September 2
10am-4pm **Bat Shadow Puppet** activity. Make a shadow puppet bat then take part in a puppet show.
11am & 1pm **Highlights of The Field Museum** tour. Visit some of the exhibits which make this museum one of the world's greatest. Find out the stories behind the exhibits.
Noon-3pm **How Scientists Study Bats** demonstration. Watch as bat specimens are prepared for the Field Museum collection.

Sunday, September 3
10am-4pm **Bat Shadow Puppet** activity.
Noon-3pm **How Scientists Study Bats** demonstration.

Monday, September 4
11am & 2pm **Highlights of The Field Museum** tour.

Tuesday, September 5
2pm **Highlights of The Field Museum** tour.

Wednesday, September 6
11pm & 2pm **Highlights of The Field Museum** tour.

Thursday, September 7
11pm & 2pm **Highlights of The Field Museum** tour.
1pm **American Indians of the Northwest Coast and Arctic** tour. Explore the people of the Northwest Coast and Arctic and learn about their environment, how they lived, and the technologies they developed.

Friday, September 8
11pm & 2pm **Highlights of The Field Museum** tour.

Saturday, September 9
10am-1pm **Horns and Antlers** activity. Find out the differences between horns and antlers.
11am **Stories from Around the World**. Gather around as our storyteller transports you to other lands and times.

Sunday, September 10
10am-1pm **African Metals** activity. Learn about the ancient African art of metallurgy.
11pm & 1pm **Highlights of The Field Museum** tour.

Monday, September 11
11am & 2pm **Highlights of The Field Museum** tour.

Tuesday, September 12
2pm **Highlights of The Field Museum** tour.

Wednesday, September 13
11am & 2pm **Highlights of The Field Museum** tour.

Thursday, September 14
11am & 2pm **Highlights of The Field Museum** tour.
1pm **American Indians of the Northwest Coast and Arctic** tour.

Friday, September 15
11am & 2pm **Highlights of The Field Museum** tour.

Sunday, September 17
10am-1pm **Africa Puzzle Map**
Learn to identify different African countries with this fun activity.

Monday, September 18
11am & 2pm **Highlights of The Field Museum** tour.

Tuesday, September 19
2pm **Highlights of The Field Museum** tour.

Wednesday, September 20
11am & 2pm **Highlights of The Field Museum** tour.

Thursday, September 21
11am & 2pm **Highlights of The Field Museum** tour.
1pm **American Indians of the Northwest Coast and Arctic** tour.

Friday, September 22
11am & 2pm **Highlights of The Field Museum** tour.

Saturday, September 23
10am-1pm **Horns and Antlers** activity.
11am & 1pm **Highlights of The Field Museum** tour.

Monday, September 25
11am & 2pm **Highlights of The Field Museum** tour.

Tuesday, September 26
2pm **Highlights of The Field Museum** tour.

Wednesday, September 27
11am & 2pm **Highlights of The Field Museum** tour.

Thursday, September 28
11am & 2pm **Highlights of The Field Museum** tour.
1pm **American Indians of the Northwest Coast and Arctic** tour.

Friday, September 29
11am **Stories from Around the World**

11am & 2pm **Highlights of The Field Museum** tour.

Sunday, October 1
11am & 2pm **Fireballs and Shooting Stars** tour. Explore the secrets locked in meteorites that hold keys to understanding our universe.

Monday, October 2
11am & 2pm **Highlights of The Field Museum** tour

Tuesday, October 3
2pm **Highlights of The Field Museum** tour.

Wednesday, October 4
11am & 2pm **Highlights of The Field Museum** tour.

Thursday, October 5
11am & 2pm **Highlights of The Field Museum** tour.
1pm **American Indians of the Northwest Coast and Arctic** tour.

Friday, October 6
11am & 2pm **Highlights of The Field Museum** tour.

Saturday, October 7
10am-1pm **African Metals** activity.

Sunday, October 8
11am & 1pm **Highlights of The Field Museum** tour.

AYMARA BOAT BUILDERS

October 9 & 10
High in the Andes Mountains the fishermen of Lake Titicaca have for centuries built their boats of totora reeds. Meet an Aymara father and son who will share with you their ancestors' maritime traditions. Max and Erik Catari will demonstrate how the Aymara people fashion reeds into boats. Through slides and video the Cataris have documented their voyage around Lake Titicaca and their encounters with other Lake people.
Boat builders demonstrations will take place from 10:00 a.m. to 12 noon on Monday, October 9 and Tuesday, October 10. Slide lectures at 2:00 p.m. each day.

Monday, October 9
11am & 2pm **Highlights of The Field Museum** tour.

Tuesday, October 10
10am-1pm **Celebración '95** Latin American school festival. On-going interactive activities and demonstrations.

Performances:
Renacer Boliviano. Children's dance performance from Bolivia.
Nelson Sosa. Latin American Journey through music.

Wednesday, October 11
11am & 2pm **Highlights of The Field Museum** tour.

Thursday, October 12
10am-1pm **Celebración '95** Latin American school festival.

Performances:
Gilberto Gutierrez y su grupo Jarocho. Songs and Dances from Veracruz, Mexico.
Nelson Sosa. Latin American Journey through music.

Friday, October 13
10am-1pm **Celebración '95** Latin American school festival.

Performance:
Nelson Sosa. Latin American Journey through music.

Saturday, October 14
10am-3pm **Celebración '95** Latin American Festival.

Performances:
Mi Lindo Panamá and **Viva Panamá** together will perform music and dance from Panama.
Nelson Sosa. Latin American Journey through music.
Machu Picchu. Listen to the indigenous music from Peru, Bolivia and Ecuador.
Grupo Musical Colombiano. Music and songs from Colombia



Grupo Musica Colombiano interprets Colombian music and songs on Saturday, October 14, as part of Celebración 95, the festival of Latin American heritage.

Sunday, October 15
11am & 1pm **Highlights of The Field Museum** tour.

Monday, October 16
11am & 2pm **Highlights of The Field Museum** tour.

Tuesday, October 17
2pm **Highlights of The Field Museum** tour.

Wednesday, October 18
11am & 2pm **Highlights of The Field Museum** tour.

Thursday, October 19
11am & 2pm **Highlights of The Field Museum** tour.
1pm **American Indians of the Northwest Coast and Arctic** tour.

Friday, October 20
11am & 2pm **Highlights of The Field Museum** tour.

Saturday, October 21
10am-1pm **Horns and Antlers** activity.
11am & 1pm **Highlights of The Field Museum** tour.

Sunday, October 22
10am-1pm **African Metals** activity.
11am & 1pm **Fireballs and Shooting Stars** tour

Monday, October 23
11am & 2pm **Highlights of The Field Museum** tour.

Tuesday, October 24
2pm **Highlights of The Field Museum** tour.

Wednesday, October 25
11am & 2pm **Highlights of The Field Museum** tour.

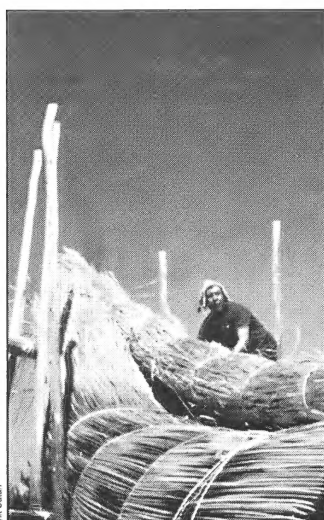
Thursday, October 26
11am & 2pm **Highlights of The Field Museum** tour.
1pm **American Indians of the Northwest Coast and Arctic** tour.

Friday, October 27
11am & 2pm **Highlights of The Field Museum** tour.

Saturday, October 28
11am **Stories from Around the World**

Sunday, October 29
10am-1pm **Africa Puzzle Map** activity.
11am & 1pm **Fireballs and Shooting Stars** tour.

Monday, October 30
11am & 2pm **Highlights of The Field Museum** tour.



KEEPING UP WITH ENTROPY

By Eugene Dillenburg
Exhibits Department

Over the past ten years, The Field Museum has installed a large number of innovative new exhibits. Galleries such as "Traveling the Pacific," "Africa," "Life Over Time" and others have won wide acclaim as some of the finest museum exhibits in the world.

At the same time, we've also undertaken a number of smaller exhibit projects. Often overshadowed by the major renovations, these smaller projects are no less important in helping the Museum fulfill its missions of public service and public education by keeping existing displays up-to-snuff.

Every year, the Museum sets aside a small fund to cover miscellaneous exhibit tasks: everything from printing up new "Sorry This Hall Is Closed" signs and "Object Removed" labels to more elaborate projects which update information, correct mistakes, or simply plug a hole. These all come through me. I am the Coordinator of Special Projects, a dangerously vague title which roughly translates as "stuff no one is quite sure what to do with."

Some Special Projects have a pretty high profile. The 42-foot-tall *Brachiosaurus* in Stanley Field Hall is perhaps the single most-seen object in the Museum. The new exhibits around the elephants and the totem poles, which were part of the Centennial renovation of the grand hall, were also coordinated by Special Projects (though I wish to make it clear that the Grateful Dead bracelet by the totem poles was Anthropology's idea, and not mine. I'm more of a Dinah Washington fan.)

Other Special Projects you may have seen around the Museum include:

- the reinstallation of the "Tibet" exhibit
- a display on the AIDS research being conducted by Dr. Doel Soejarto of the Botany Department
- an exhibit on contemporary Hopi culture (covering several old dioramas which Hopi elders asked us to take off display)
- the installation of a rare fossil monkey skull, discovered just last year by Dr. John Flynn of the Geology Department
- a new look for "Mexico and Central America." This hall had many beautiful objects, but very little information about the cultures that produced them. We wrote and installed new labels in English and Spanish, and added maps, murals, banners, and a new coat of paint.
- photographs and murals to "decorate" the walls around the old "Indians of the Plains and West Coast" hall (which was closed and cleared out to protect both visitors and artifacts from construction going on overhead).
- labels and photographs placed throughout the Museum to celebrate our Centennial. These identify a few of the items which have been at the Museum since its inception; honor some of the original collectors; and show how these objects are used by our scientists today.

Some Special Projects are less permanent in nature. Dinosaurs are of course one of our most popular exhibits, and for two years before "DNA to Dinosaurs" opened in June 1994, most or all of our fossil galleries were closed. Special Projects coordinated a series of small exhibits to satisfy the thousands of paleontology buffs who came to visit during that period: displays on new dinosaurs from South America, new dinosaurs from Antarctica, a recreation of a fossil dig site, and a viewing area into the exhibit under construction, as well as the *Brachiosaurus* mentioned earlier.

Most of our projects, however, are more low-key. Take the halls of "Asian Mammals" and "Sea Mammals," for example. Like most of our animal exhibits, they were built before



World War II and, as was customary at the time, focused on the economic uses of the animals. In the mid-'80s the Museum decided to renovate the zoology wing, creating new exhibits to emphasize evolutionary and environmental biology. This eventually led to such wonderful and popular displays as "Into the Wild," "Messages from the Wilderness," and "What Is an Animal?"

It was clear from the start that we would not have the time, staff, or money to re-do every exhibit; "Asian Mammals" and "Sea Mammals" were among those we would save for another day. However, their information was out-of-date (range maps still showed "Persia" and "French Indo-China"), and their content was at odds with the conservation and ecology themes of the new exhibits under development. What to do?

Special Projects was called in to see if we could help. Updating the exhibit labels, by no means a simple task, was something we could manage without taking resources away from the major renovations. With help from our staff zoologists we wrote new labels, then had them designed and installed. While the physical appearance of the halls didn't change much, the content is now up-to-date and in line with the rest of the Museum's exhibits.

Such updates and corrections are a large part of our work, for three reasons. First, scientific knowledge changes rapidly. New information comes to light, old theories are discarded, and a static exhibit quickly falls out-of-date. Second, the world keeps changing as well. Every time a country changes its borders or its name, it can affect our exhibits. And third, there's simple human error. The Field Museum has some seven acres of exhibits, and more than 27,000 items on display. Nobody's perfect, so it's inevitable that there will be a few mistakes, a misspelled word or two, etc. And there's no way we could keep on top of it all if it weren't for our sharp-eyed visitors.

We frequently receive comment cards from visitors who have noticed some error. Citizens of Belize used to point out all the labels that still referred to "British Honduras" (I think I finally got them all), and now we're starting to hear complaints about the term "Soviet Union" in some of the exhibits. Visitors with expertise in some subject area may question a spelling or a fact on a label. We carefully check out each comment, and if it turns out the exhibit is wrong we make the necessary revision. When possible we change the label, but if that's not feasible we acknowledge the mistake with an "Update!" label. You may have seen these small green-and-white labels, particularly in "South America" and the Plant halls. We stick them on the glass of the offending case, both to update the information and as a reminder to ourselves that someday we'll have to make a more permanent fix.

Once we receive a comment, our first step

is to prioritize. A simple misspelling we can probably live with for a while; an empty case or a missing dinosaur requires more immediate attention. There are always a number of projects in the works at any moment, and we often have to juggle our schedules to accommodate new emergencies.

Next we develop the exhibit. It may be a simple case of replacing a label, or it may be something more elaborate as with the AIDS exhibit or the Hopi display. A volunteer or intern is usually assigned to research the subject, working with a curator to gather information and decide what to say. Then comes a long bout of selecting artifacts, choosing pictures and illustrations, and writing, reviewing and editing the label copy. Both the exhibit and the labels have to be designed, mounts made for the objects, and the case painted and prepared before we finally install the new exhibit.

This process can take anywhere from a couple of weeks for the monkey skull (which set a new record for us) to several years. "Tibet" was started in 1989 and still isn't finished, though that's largely because everyone involved was also working on major projects and did "Tibet" in their "spare" time — a scarce commodity in museums.

We have recently embarked upon our most ambitious project to date, reinstalling the numerous objects removed from the Indian halls. Occasionally, objects are taken off display for study, conservation, or safety reasons. Because we've been so busy building new exhibits we never had a chance to put any of them back, and the list of missing objects grew to some 450. But this spring, the Exhibits and Anthropology Departments began working together to bring those items back to public view. As of mid-July we had reinstalled several cases in "Indians Before Columbus" and "Indians of the Woodlands and Prairies," though it will be quite some time before we finish this massive project. (Creating new mannequins to display delicate clothing is a particularly thorny issue.) Up-coming projects, some of which may be completed by the time you read this, include:

- moving artifacts out of the Webber Resource Center and into Indians of the Woodlands and Prairies, thus creating a new space for rotating, temporary displays;
- a new exhibit on contemporary Navaho weaving;
- an update of the tobacco, alcohol, and drugs case in the Plant Hall;
- completing "Tibet" (finally!);
- a new video to go with the AIDS display; and so on. This sort of work goes on forever. There will always be little emergencies to handle, new discoveries to trumpet, and simple corrections to be made. So Special Projects marches on. If you see anything in the Museum that needs our attention, you can write to us in care of the Exhibits Department and we'll get to it as soon as time and budget allow.

And thanks for helping us keep The Field Museum the world-class institution that it is.

Top: The 42-foot *Brachiosaurus* in Stanley Field Hall.

Below: Doel Soejarto taps a Malaysian tree for latex that contains an anti-HIV compound. The photo is part of the new display on AIDS research in "Plants of the World."



THE MUSEUM'S CHINESE JADES

By Paul DuBrow and Chuimei Ho
Department of Anthropology

The Field Museum is home to one of the world's prized collections of Chinese jades and many of its choicest examples are on view in the Jade Room at the southeast corner of the second floor.

Opened to the public in 1970, the exhibition put many of the more than 1,200 items in the collection on display. The Field Museum was one of the earliest Western institutions to pay serious attention to Chinese jade and the collection still rates among the best in the United States. More significantly, almost all of the objects in the collection were acquired in China, unlike those in many other Western museums, and they represent virtually every period of Chinese history from the Neolithic on, avoiding a strong bias toward any one era. We are currently reassessing the collection and the data will be computerized for faster and easier retrieval.

These jades were obtained primarily from two major sources, and Berthold Laufer, then curator of anthropology, was instrumental in documenting the various items and in bringing them to the attention of the public. The first source was two Museum-sponsored expeditions to China, one in 1908-1910 and the other in 1923, both led by Laufer. The second source was a large collection formed in Shanghai by A.W. Bahr during the 1910s which was purchased by a generous group of local Museum patrons and donated to The Field Museum in 1926.

Laufer published two volumes describing both collections. One was *Ancient Chinese Jade* (1927), primarily covering the jade pieces in the Bahr collection, and the other was *Jade* (1912). The latter was among the earliest monographs in English on this subject and contained a wealth of detailed background material covering the jade items acquired by the first of the Museum's two China expeditions. Laufer was also sought out for advice by other Chicago collectors, including the Sonnenscheins, who later contributed their prized materials to the Art Institute of Chicago.

Where did the word "jade" come from? For 5,000 years the Chinese name for it has been "yu"; the English word actually originated on this continent, as a corruption of the Spanish term for Indian stone amulets worn for warding off kidney disease. Sir Walter Raleigh, in fact, first brought it to the attention of the English in 1595. Soame Jenyns, in his book *Chinese Archaic Jades in the British Museum*, cites the original Spanish definition as "piedra de ijada," or stone of the loins, which translated to "pierre l'ejade" in French. Subsequently, a printer's error changed this to "le jade" which was shortened to "jade" by the English. So much for rationality!

The word jade, today, conjures up visions of the exotic and the luxurious, of dark green personal adornments and decorative pieces. But jade is only a naturally occurring stone, found in many parts of the world. While not as hard as diamond, it is very tough; because of a unique internal structure it does not fracture easily though it takes a highly polished luster and has a "cool" feel. Surprisingly, in its pure form it is white and can be translucent and only develops the typical green color we associate with jade when contaminated with such things as iron and chromium.

It is said that in the 5th century B.C., when Confucius was asked why such a high value was placed on jade as opposed to other precious

stones, he replied it was partly its rarity but partly because of its special qualities:

"... [S]oft, smooth and glossy, like benevolence; fine, compact and strong, like intelligence; angular but not sharp and cutting, like righteousness; its flaws not concealing its beauty, nor its beauty concealing its flaws, like loyalty; its internal radiance, like good faith; bright, like Heaven; exquisite and mysterious, like the earth..."

China since Neolithic times has represented one of the world's largest and most creative political entities. Jade has had a major cultural impact on the Chinese then and during the intervening millennia, fulfilling religious, political, cultural, and burial functions. Although originally restricted to use by the political elite, jade ultimately found acceptance by all classes and economic levels. In fact, the first Chinese catalogue on jade, *Illustrated Description of Ancient Jades*, was published in the mid-12th century A.D. by the Song Emperor Gaozong, at a time when jade was still unknown by Westerners.

When the 3,000-year-old tomb of Lady Fu-hao was unearthed in the mid-1970s many eye-catching jade objects were found buried with her. Probably the earliest jade collector documented archaeologically, she had in her jewel box jade belts, bracelets, and plaques used as pendants or on shrouds, many already 1,000 years old at the time of her death. Little did Lady Fu-hao know she had started a passion that would last and grow, in the rest of the world as well as in China.

Politically, the significance of jade may be exemplified by its use by Han Gaozu, first Emperor of the Han dynasty, starting about 206 B.C. As a former merchant he was concerned about establishing his imperial credentials and was advised to stress ritual to create respect. Jade was the medium selected to do this, to signify authority by using it in Imperial seals, on burial suits, and as girdle ornaments by princes and ruling families and for state ceremonies. Only later was its decorative use adopted by commoners. Talk about jade objects as charms to protect against evil spirits, incidentally, is still common among many Chinese.

Much of the early use of jade in pre-metal



periods served both ceremonial and utilitarian functions, the latter as knives, daggers, etc. With changing technology these previously utilitarian implements were relegated to use as ceremonial sceptres, again generally for use by the ruling elite.

In the pre-Han period, the Chinese revered six important cosmic impersonal powers, or forces of nature. These represented Heaven and Earth, as well as the four seasons or geographic directions. They provided the inspiration for preparing geometric figures and for many of the designs carved into jade objects such as amulets and pendants. These objects were prepared in an almost infinite variety of colors, sizes, shapes, and carved decorations, often depicting birds, animals, monsters, etc.

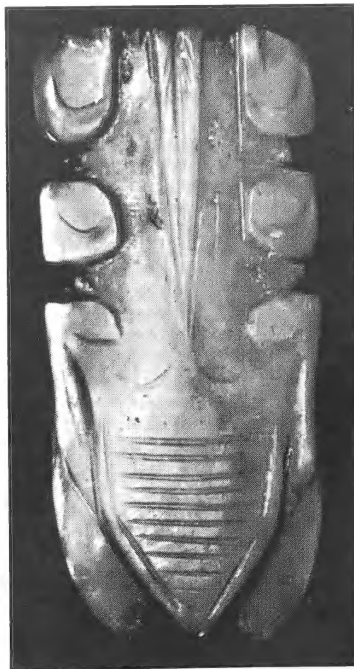
Another major function of jade was as funerary objects, to be buried with a corpse for the protection and comfort of the dead in its next journey. These objects were also designed to close the various body orifices, supposedly to prevent decomposition.

One of the most common of such objects was made in the form of a cicada. Shaped like a triangular pendant, the jade cicada was placed on the tongue of the dead. The nymph form of the periodic cicada spends thirteen to seventeen years underground before resurfacing as an adult insect for a short period. The ancient Chinese must have found a very significant "rebirth" meaning in using the cicada design as an amulet for the corpse, a custom that lasted for over a thousand years.

The Field Museum has a very good collection of some 35-40 such cicada pieces; one is pictured here, with others on display in the Jade Room.

Incidentally, today's buyers of jade often worry that they are getting glass instead. Their worry is well justified since such forgeries were already in circulation two thousand years ago and glass cicadas were prime examples of "buyer beware" items.

Other early peoples besides the Chinese used and admired jade, including the Maori of New Zealand and the Maya of Guatemala and Mexico. Some of these objects are also exhibited in the Jade Room, but the Museum's collection of non-Chinese jade, although of high quality, is relatively small.



A very realistic, grayish jade cicada tongue amulet (FM #116531) showing well-defined wings and body on the upper face (top right) and feet and abdomen on the lower face (right). It is a Han period piece, as defined by Laufer, measuring 2.7cm. W, 6.8cm. L and 1.1cm. thick.

DID PRAIRIES CHANGE THE WORLD?

By Bill Burger
Department of Botany

Chicago's motto *Urbs in Horto* (city in a garden) harks back to a time when prairies dominated much of Illinois' landscape. When Europeans first encountered these open grasslands, they assumed that the underlying soils were deficient. The explorers and settlers were unfamiliar with the Illinois vegetation, which was dominated by fire. The grasslands they were familiar with in Europe and the eastern colonies grew in poor soils. It did not take them long, however, to find that our midwestern prairies were covered with some of the richest soils on earth. Fire-control and the plow quickly converted the burning prairies into the cornbelt.

Prairies are a fairly recent development in the history of our planet. Widespread grasslands make their first appearance in the fossil record about 20-30 million years ago. This was during the middle of the "age of mammals," long after the dinosaurs became extinct. Unfortunately, good fossil material of grasses is rarely preserved. Much of what we know about the spread of grasslands comes from studying the fossilized teeth of animals that became especially adapted to grazing.

Greg J. Retallack, a paleobotanist at the University of Oregon who pioneered the study of ancient soils as a key to understanding the vegetation of the past, has been looking at the spread of grasslands from a new perspective. He has been studying fossil soils that are characteristic of grasslands.

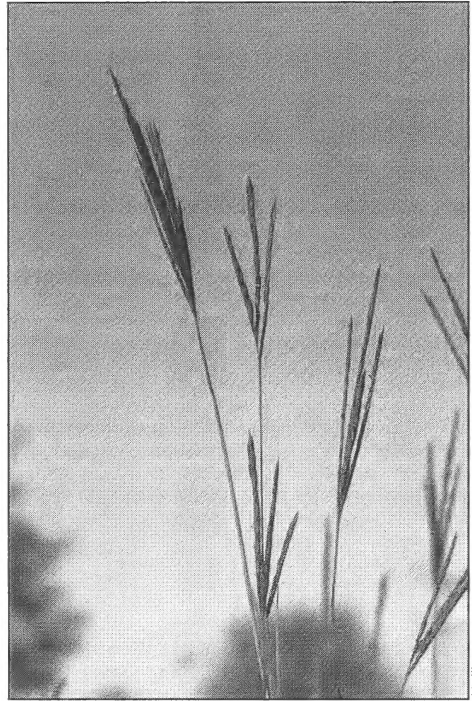
In a recent talk at the University of Chicago, Retallack noted that the granular structure of grassland soils contains soil particles smaller than those found beneath woodlands and forest. These smaller particles give grassland soils more internal surface for the accumulation of organic materials. It is this finer granular structure and rich organic matter that make prairie soils so productive. Earlier, soil scientists had discovered that the depth of grassland soil is related to the rainfall of a region. Semidesert grasslands have shallow soil while tall-grass prairies in moister areas have much deeper soils. Studying buried fossil soils in the midwest, Oregon, East Africa, and elsewhere, Retallack has

been able to document the spread of grasslands over the past 20 million years.

Retallack's research uncovered an unexpected change in grasslands. He found that before about six million years ago, grasslands were restricted to areas of low rainfall. His data show that grasslands with deeper soils appear for the first time about six million years ago, and he claims that grasslands were able to move into areas of higher rainfall at that time. What allowed the grasslands to advance into areas of higher rainfall is not known. But his data suggest that before six million years ago grasslands were found only in drier regions (such as today's short-grass steppes and semidesert grasslands).

It is on the basis of these studies of fossil soils that Retallack proposes a bold hypothesis. If grasslands did expand into moister regions and develop much deeper and richer soils worldwide, they had the potential to sequester huge amounts of organic matter. This sequestered organic matter would have been a "sink" for carbon and, Retallack argues, would result in the gradual decline of CO₂ in the atmosphere. Thus the punch-line of his theory suggests a "reverse green-house effect" may have occurred. Starting six million years ago, he says, the tallgrass prairies began storing more and more carbon underground. Over the next four million years, CO₂ in the atmosphere gradually decreased. The reduced atmospheric CO₂ trapped less heat and caused a worldwide climatic cooling. Four million years after the expansion of the tallgrass vegetation the recent "ice ages" began. From his perspective, the newest prairies did indeed change the world — they catalyzed the ice ages.

Bold hypotheses are a hallmark of science. The original evidence to support a hypothesis such as this may be weak, but it does not take long to find new and critical ways of testing the hypothesis. Finding ways to test historical hypotheses, such as Retallack's prairie theory, can be especially difficult. American geologists rejected the hypothesis of moving continents for half a century; when ocean-floor spreading was documented, the belief in fixed continental positions collapsed. Likewise, the notion that a meteoritic impact played a direct role in dinosaur extinction was at first met with severe skepticism. New data gathered around the world



John Wagner

in the past decade has given the "bolide impact" theory considerable support.

Can the subtleties of a diminished CO₂ concentration in the atmosphere over the past six million years be demonstrated? Can such an effect be clearly correlated with expanding grasslands? Perhaps contradictory data will prove more convincing. Did the expansion of prairies really change the world? Stay tuned to this activity called science to find out how things turn out.

SCENES FROM SUMMER CAMP



Youngsters enrolled in the Summer Worlds Tour Camp enjoyed learning activities with Field Museum scientists.



Bill Kurtis and Donna LaPietra are the co-chairs. The group's next event is October 14, a discussion of bird migration phenomena with ornithologists David Willard and Doug Stotz (see page 1).

TUTTLE LECTURES ON BATS



Merlin Tuttle, founder and director of Bat Conservation International, spoke at a number of Museum events during the run of the special summer exhibit "Masters of the Night: The True Story of Bats." Below, he mingles at a Founders' Council reception. Tuttle also spoke at a brunch kicking off the Nature Network, a new group supporting the Museum's programs of research, conservation, and environmental biology.



Diane Alexander/White / GNB753115



TOURING EGYPT BY WATER

Cruising Lake Nasser and the Nile

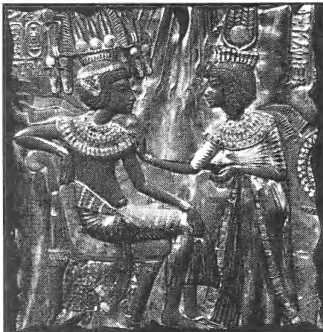
February 7 - 21, 1996

The oldest temples of the world await you on this tour by water through Egypt. Begin in Cairo at the five-star Mena House Oberoi with views of the Great Pyramids. Tour the consummate symbol of Egypt, the Sphinx. Then fly to Abu Simbel and board the five-star m.s. *Nubian Princess*, our vessel on Lake Nasser. Lake Nasser sights include the many temples that were remarkably raised by engineers when rising waters threatened their safety. At Aswan we board the m.s. *Nile Sovereign* for a tour of the Nile up to Cairo. Excursions include Aswan's ancient quarries and the Philae Temple; Esna Temple, dedicated to Khnum, ram god and chief creator; and many other sites of great architectural and historical interest. Back in Cairo, we will visit the

Egyptian Museum of Antiquities which contains innumerable precious artifacts, including the riches of King Tutankhamun.

Our tour guides will help to make this a fascinating trip. Egyptologist Frank J. Yurko, a Field Museum consultant for the exhibit "Inside Ancient Egypt," brings to this trip more than twenty years of specializing in Egypt's history. He will be joined by Ismail Mohamed Ali, an official guide for all Field Museum tours of Egypt since 1985 who specializes in Egyptian antiquities.

Cost for this twelve-night tour, including round-trip air transportation from Chicago, is \$5,590 per person, double occupancy.



IN THE WAKE OF LEWIS & CLARK

A Voyage Along the Columbia & Snake Rivers • May 18 - 26, 1996

Rediscover the lands Lewis and Clark once discovered along the Columbia River. Beginning in Portland, Oregon, this 450-mile river journey is impossible for larger vessels, but the 70-passenger sister ships *Sea Bird* and *Sea Lion* can maneuver all the way into Idaho — in the comfort of a large yacht. See Lewis and Clark's winter headquarters; the Columbia River Gorge, where waterfalls cascade from forested slopes; and the Snake River's Hells Canyon, the deepest gorge in North America. With guided excursions by jet craft and zodiacs, this tour explores lands rich with beauty and history.

Tour cost ranges from \$2,350 to \$ 3,560 per person, according to cabin size and location.

Islands of the Gods • October 2 - 15, 1996

A joint venture with the Art Institute culminates with this tour of Greece aboard the *Lady Caterina*, a new 150-cabin ship. Begin in Athens with a tour of the Acropolis, crowned by the pillared ruins of the Parthenon. Board the ship and head to the Cycladic Islands. Spend the remaining nine days exploring the islands of Greece, some volcanic, others of mythological significance. Phone Field Museum Tours for further information.