

ROTUNDA

For Participating and Higher Members of the American Museum of Natural History

Vol. 18, No. 1 January 1993



Yemenite Jewish women with goat



Jewish men praying in Sanaa, Yemen



Jewish woman in Haidan, Yemen

Jews of Yemen: A Vanishing Culture

Thursday, January 7

7:00 p.m.

Main Auditorium

\$7 for Members, \$10 for non-Members

Beth Shearim, the most famous Jewish cemetery in the Near East during the third century CE (common era), contains a Yemenite catacomb. This burial site is difficult to reach. Its entrance is overgrown, and the inscriptions in red pigment have been almost obliterated by time and weather. Those that can still be read form the first historical evidence of an established Jewish community in Yemen.

For centuries the Jews of Yemen enjoyed freedom and prosperity. But with the suicide of the last Jewish king — according to legend he rode his horse into the sea — and the increasing power of Islam, Yemenite Jews were stripped of their land, forbidden to farm, and confined within small areas of villages and of the capital of

Sanaa. In the crowded ghetto of Sanaa, Yemenite Jews created a style of architecture known nowhere else in the Middle East. They did the only work allowed them — that of artisans — becoming skilled silversmiths, copper smiths, weavers, woodworkers, and masons.

Between 1948 and 1950 large numbers of Yemenite Jews emigrated to Israel. Little was known about those who remained behind.

In *Jews of Yemen: A Vanishing Culture*, filmmaker Johanna Spector takes the viewer to modern Israel and into the homes and ceremonial areas of modern Jews of Yemenite descent. Some of the people the film visits, like the young boys who go to school to learn Aramaic and the special Yemenite pronunciation of Hebrew,

retain distinct aspects of their Yemenite heritage. Others, the children of mixed marriages, are much less familiar with their grandparents' culture.

The film includes footage of traditional Yemenite celebrations, rituals, dances, and music. Spector's camera enters the homes of several Yemenite families as they celebrate the Passover Seder in ways that are unique to Yemenite Jews.

In one segment — a pre-wedding ceremony — a young bride wears anklets to protect her from the evil eye, a pearl-studded headdress, a gold brocade coat, and vast amounts of jewelry, including necklaces, earrings, and six bracelets worn in a prescribed order. (All jewelry is considered magical, since its tinkling is thought to

drive away evil spirits.) The bride is seen celebrating in the company of women only, for women do not dance or sing in the company of men. Only at certain points of the prenuptial ceremony are her father, brothers, and uncles permitted to be present.

Anthropologist Johanna Spector, who is a music ethnologist as well as a filmmaker and director, will introduce the film and answer questions from the audience at its conclusion. Her film *2,000 Years of Freedom and Honor: The Cochon Jews of India* premiered at the Museum last January; *Jews of Yemen* had its premiere here in 1986.

The film is 78 minutes long. Use the January Members' programs coupon on page 3 to register for the program.

Members' Museum Tours

The Geology of Southern Asia

Friday, January 8
3:00, 4:30, and
6:00 p.m.

Members can explore the geological diversity of Asia with Sidney Horenstein, the Museum's coordinator of environmental public programs. He'll lead tours through the halls of Asian Mammals and Asian Peoples to observe the wide variety of topographic features found throughout the world's largest continent.

Tickets are \$16 and available only to Participating and Higher Members. Call (212) 769-5606 for ticket availability and information.

Members' Adult-Child Workshop

Making a Calendar

Sunday, January 10
10:30 a.m.-noon and
1:00-2:30 p.m.

Members can set their own agendas at this calendar-making workshop. June Myles will provide the basic skeleton and plenty of materials for kids and parents to create their own personal calendars for the new year.

The workshop is geared toward children between the ages of 6 and 9. Tickets are \$26 per couple and available only to Participating and Higher Members. Call the Membership Office at (212) 769-5606 for information about tickets.

Robbers, Assassins, and Manipulators: Some Bees I Have Known

Thursday, January 14
7:00 p.m.

Curator Jerome G. Rozen has worked in the Department of Entomology since the 1940s, and he's traveled around the world to conduct research. At *Robbers, Assassins, and Manipulators: Some Bees I Have Known* he'll talk about some of the fascinating behavior he's observed, focusing on the evolution of cleptoparasitic bees — remarkable creatures whose survival depends on their skill at theft and murder.

The program will take place in the Kaufmann Theater. Tickets are free for Members

and \$7 for non-Members. Use the coupon on page 3 to register.

Members' Workshop

Identifying Rocks and Their Minerals

Tuesday, January 19, and
Tuesday, January 26
5:30-7:30 p.m.
SOLD OUT

Geologist Sidney Horenstein hosts a two-part workshop that shows how to identify and classify the major groups of rocks. He'll use actual specimens and Museum exhibits to explain the differences between igneous, sedimentary and metamorphic rocks.

Tickets are \$40 and available only to Participating and Higher Members.

Behind-the-Scenes Tours of the

Department of Entomology

Thursday, January 21,
5:00-9:00 p.m.
Saturday, January 23,
10:30 a.m.-4:00 p.m.

Come upstairs to the Museum's fifth floor to visit collection areas and research offices that are never open to the general public. Representatives from the Department of Entomology's curatorial and scientific staff will talk to Members about their research and fieldwork and display specimens from the biggest collection of any of the Museum's scientific departments — a collection that numbers more than 17 million insects and arachnids.

Tickets are \$12; call (212) 769-5606 for information about availability.



Robbers, Assassins, and Manipulators: Some Bees I Have Known on January 14



Take a closer look at the insect world on behind-the-scenes tours of the Department of Entomology

DINOSAURS ARE THE LATEST THING FOR LUNCH!

Come try the brand-new **DINER SAURUS**, a fun-loving, fast service eatery that literally glows with neon dinosaurs!

Featuring our
MEAL-O-SAURUS.....\$5.95
DINO SIPPERS.....\$2.00
DINO FRIES.....\$2.05

And our latest addition:
HOT 'N CHEESY PEPPERONI PIZZA!

Hours: 11am - 4:45pm, Mon. - Sun.
On lower level, next to the Garden Cafe.



ROTUNDA

ISSN 0194-6110

Vol. 18, No. 1
January 1993

Donna Bell — Editor
Sheila Greenberg — Manager of Membership Services
Angela Soccodato — Designer
Rita Campon — Copy Editor
Evelyn Robbins — Proofreader
Peter Zelaya — Fulfillment Coordinator

Rotundo, a publication for Participating and Higher Members of the American Museum of Natural History, is published monthly September through June, bimonthly July and August. Publication offices are at *Natural History* magazine, American Museum of Natural History, Central Park West at 79th Street, New York, NY 10024-5192. Telephone: (212) 769-5606. Subscriptions: \$50 a year for Participating Membership; \$100 a year for Contributor Membership. © 1993 American Museum of Natural History. Second-class postage paid at New York, NY. Postmaster: Please send address changes to: *Rotundo*, Membership Office, American Museum of Natural History, Central Park West at 79th Street, New York, NY

Printed by Waldon Press, Inc. New York

341

Jumbo: The World-Famous Elephant



Jumbo's back! The darling of the big top, the biggest of Phineas T. Barnum's big deals, Jumbo was a stellar attraction more than a century ago, but his legend endures. And so does his skeleton, which will be exhibited later this month in the Roosevelt Memorial Hall on the first floor.

Baby Jumbo was captured

in Africa in 1861 and transported to the London Zoo, where he grew to an immense size, estimated at six tons. In 1882 Barnum purchased the elephant amid great fanfare and brought him to the United States, where Jumbo drew enormous crowds until his fatal accident less than three years later —

a head-on collision with a speeding freight train.

The massive skeleton was donated to the Museum and has been exhibited several times. During this exhibition the Department of Education will offer related programs for young people and adults. For information call (212) 769-5310.

Ice Fishing

At Blue Mountain Lodge in Peekskill, New York

Saturday, February 6
9:00 a.m.-5:00 p.m.
\$60 per person,
and open only to
Participating and
Higher Members

Love to fish? Love the cold weather? Try ice fishing! Join Friends of Fishes, curators from the Department of Ichthyology, and members of the Hudson River Foundation for a spectacular day of nature walks, ice fishing, and a gourmet catered lunch — in the lodge or on the lake, the choice is yours.

Bring warm clothes, a love for the brisk outdoors, and a hearty appetite. Those who brave the ice can bring their catch back to where the less bold will be keeping warm, waiting comfortably in front of the lodge's big old-fashioned fireplace. Lunch will include fish, salads, side dishes, dessert, beer, wine, hot chocolate, and coffee.

Tickets are \$60 per person and include lunch and roundtrip bus transportation from the Museum to Blue Mountain Lodge. Register soon; there are a limited number of tickets available only through mail order. Use the coupon at right to register and call (212) 289-3605 or fax (212) 427-6659 for further information.



Ice Fishing. Saturday, February 6, 9:00 a.m.-5:00 p.m.

Number of Members' tickets at \$60: _____
Total amount enclosed for program: _____

Name: _____

Address: _____

City: _____ State: _____ Zip: _____

Daytime telephone: _____

Membership category: _____

Please make check payable to the Friends of Fishes/AMNH, and mail with a **self-addressed, stamped envelope** to: Friends of Fishes, Dept. of Ichthyology, American Museum of Natural History, Central Park West at 79th Street, New York, NY 10024-5192.

January Members' Programs Coupon

Name: _____

Address: _____

City: _____ State: _____ Zip: _____

Daytime telephone: _____

Membership category: _____

Total amount enclosed: _____

Please make check (if applicable) payable to the American Museum of Natural History and mail with a **self-addressed, stamped envelope** to: January Members' Programs, Membership Office, American Museum of Natural History, Central Park West at 79th Street, New York, NY 10024-5192.

Telephone reservations are not accepted. No refunds or exchanges.

Unless otherwise indicated, no more than eight tickets may be ordered for a program. Participating Members are entitled to four tickets per program at the Members' price. Higher Members are entitled to six tickets, and Associate Members are entitled to one ticket.

Jews of Yemen

Thursday, January 7, 7:00 p.m.

Number of Members' tickets at \$7: _____

Number of additional tickets at \$10: _____

Total amount enclosed for program: _____

Robbers, Assassins, and Manipulators: Some Bees I Have Known.

Thursday, January 14, 7:00 p.m.

Number of free Members' tickets

(no more than 2, please): _____

Number of additional Members' tickets at \$4: _____

Number of non-Members' tickets at \$7: _____

Total amount enclosed for program: _____

The Collections of the Pierpont Morgan Library

Thursday, January 28, 7:00 p.m.

Number of Members' tickets at \$5: _____

Number of additional tickets at \$10: _____

Total amount enclosed for program: _____

Shoestring Players.

Saturday, January 30. Please indicate a first and second choice.

_____ 1:30 p.m. _____ 3:30 p.m.

Number of Members' tickets at \$6: _____

Number of additional tickets at \$10: _____

Total amount enclosed for program: _____

This Island Earth.

Saturday, February 6, 3:00 p.m.

Number of Members' tickets at \$4: _____

Number of additional tickets at \$7: _____

Total amount enclosed for program: _____

O'Keeffe and Stieglitz

Wednesday, February 10, 7:00 p.m.

Number of Members' tickets at \$6: _____

Number of additional tickets at \$10: _____

Total amount enclosed for program: _____

What the Bones Tell Us

Wednesday, February 17, 7:00 p.m.

Number of free Members' tickets

(no more than 2, please): _____

Number of additional tickets at \$4: _____

Number of non-Members' tickets at \$7: _____

Total amount enclosed for program: _____

The World of Animals.

Saturday, February 20. Please indicate a first and second choice.

_____ 11:30 a.m. _____ 1:30 p.m.

Number of Members' tickets at \$5: _____

Number of additional tickets at \$8: _____

Total amount enclosed for program: _____

Rio Roosevelt.

Thursday, February 25, 7:00 p.m.

Number of Members' tickets at \$7: _____

Number of additional tickets at \$10: _____

Total amount enclosed for program: _____

NOTE: Orders received less than ten days before show dates will be held for pick-up at the door on the day of the program if tickets are still available. If an event is sold out, you will be advised in writing or by phone and your check will be returned. Babies in arms or strollers will not be admitted to programs.

What the Bones Tell Us

Wednesday,
February 17
7:00 p.m.
Kaufmann Theater
Free for Members,
\$7 for non-Members



Jeffrey Schwartz

There are no right or wrong interpretations of historical science, asserts anthropologist Jeffrey Schwartz. What counts, he says, are the data and the context in which evidence is assessed. At the Members' program *What the Bones Tell Us* Schwartz will explore conflicting ideas about human origins and evolution.

Focusing on the inner workings of archeology and anthropology, Schwartz explains what can be learned from fossils and fragments of ancient cultures and civilizations. Bone fragments can be used not only to identify animal species but also to tell of their past history. Studies of bones can show the land's past capacity to sustain animal life, whether domestic or wild. Every living creature —

whether it's considered as part of a civilization, a species, or a diverse evolutionary group — has a unique history. This makes its discovery more than just a matter of unearthing a fossil or sequencing a species' DNA; it's an issue of interpreting data in order to reconstruct the missing pieces of a puzzle.

A professor of physical anthropology at the University of Pittsburgh, Schwartz is also a research associate at the American Museum. Copies of his new book, *What the Bones Tell Us* (Holt and Company), will be available for purchase at the program, and Schwartz will sign copies after the lecture.

Use the January Members' programs coupon on page 3 to register for the program.

O'Keeffe and Stieglitz: An American Romance

Wednesday, February 10
7:00 p.m.
Kaufmann Theater
\$6 for Members, \$10 for non-Members

They were an extraordinary couple from the start. Alfred Stieglitz, a 52-year-old master of photography, was introduced to Georgia O'Keeffe's work before he ever met her. Although she was barely scraping by as a teacher, the 28-year-old O'Keeffe was uncoveted by Stieglitz's reputation and enraged at his presumption in exhibiting her work. Evenly matched in force of character, each was the other's critic and inspiration, and their love story is legendary.

Benita Eisler explores the myths and realities of the O'Keeffe-Stieglitz relationship as she discusses her book, *O'Keeffe and Stieglitz: An American Romance* (pub-

lished in hardcover by Doubleday and in paperback by Penguin). Eisler chronicles the stormy relationship between these artistic titans and captures the flavor of their times and milieu, from the vibrant bustle of New York in the Twenties to the desert grandeur of Abiquiu, New Mexico.

Eisler has been an art editor for George Braziller Publishers and worked in the exhibitions department at Wildenstein and Co. Copies of *O'Keeffe and Stieglitz* will be available for purchase at the program, and Eisler will sign books after the talk.

Use the January Members' programs coupon on page 3 to register for the program.

The 1992 Rio Roosevelt Expedition

Thursday, February 25
7:00 p.m.
Kaufmann Theater
\$7 for Members, \$10 for non-Members



These field photos were taken during the 1914 expedition to the "River of Doubt"

Theodore Roosevelt's last adventure was a two-month odyssey down a 930-mile-long Amazon tributary that had never before been explored. This "River of Doubt" — so called because no one knew exactly where it went — has since been named for the former president, who nearly died during the 1914 expedition. Last year a team of 20 Brazilians and Americans used Roosevelt's extensive maps, photographs, and his book *Through the Brazilian Wilderness* to retrace his journey. Their historical comparison documented environmental changes in one of the world's most remote regions.

Tweed Roosevelt, Theodore Roosevelt's great-grandson, will tell Members about his experiences on the 1992 Rio Roosevelt expedition, which was only the third known navigation of the river. Nobody has traveled its length since 1926, when a second expedition verified the original explorers' findings and quieted suspicions about the earlier journey's authenticity.

Two scientists from the American Museum were among the 1914 expedition members. The survey and mapping expedition, which was sponsored by the Brazilian government, is Theodore Roosevelt's "forgotten" expedition, overshadowed by his better-known adventures in Africa and the American West. The former Rough Rider and his party endured harrowing setbacks — several of their dugout canoes were sunk or crushed by rapids and



rocks and had to be replaced on the spot. Virtually all of the explorers came down with jungle fever and infections or suffered other injuries, and three expedition members died.

The 1992 adventurers had the advantages of modern conveniences such as satellite technology, freeze-dried food, and modern tents and insect repellents. Nonetheless they faced the ongoing discomforts of sweltering heat, rain, and high humidity along with the perils posed by insects, snakes, and piranha.

They encountered thou-

sands of insects and hundreds of plant and fish samples, many of which had never been cataloged by outsiders. Tweed Roosevelt collected insects for the American Museum's Entomology Department and mollusks for Harvard's Museum of Comparative Zoology. He and the other expedition members found the region remarkably unchanged over the past 78 years and believe they experienced it much the way the former president did.

Use the January Members' programs coupon on page 3 to register for the program.

Contact: Cultural Changes, Alternative Perspectives

The following programs are presented in conjunction with the Education Department's ongoing series *Contact: Cultural Changes, Alternative Perspectives*.

No tickets are necessary, but seating is limited and available on a first-come, first-served basis. For further information about these free programs, which are made possible in part by the generosity of the family of Frederick H. Leonhardt and by gifts from the Samuel and May Rudin Foundation, call (212) 769-5315.

Lumad: Indigenous Filipino Music and Dance

**Saturday, January 9
2:00 and 4:00 p.m.
Kaufmann Theater**

Music, dance, and storytelling derived from the indigenous traditions of the Philippines will be performed by the Karadya'an Ensemble. The program features festival gong-style drumming, called *kulintang*, which has been preserved among Muslim Filipinos and is taught by masters in Mindanao.

The Karadya'an Ensemble is a folk arts group specializing in the cultural traditions and heritage of Filipinos. Their sponsor Amauan, a Filipino-American multiarts center, was founded in 1979 and has received numerous grants from the National Endowment for the Arts and the New York State Council on the Arts.

Asians in America in the Last 100 Years

**Sunday, January 10
2:00 and 4:00 p.m.
Kaufmann Theater**

Pan Asian Repertory Theater presents highlights from three plays that explore the experiences of Chinese, Japanese, and Hawaiian people in the United States before and after the turn of the century.

Gagaku and Bugaku: Music and Dance of the Japanese Court

**Sunday, January 17
2:00 and 4:00 p.m.
Kaufmann Theater**

The Jo Ha Kyu performance group presents *bugaku*, Japanese court dances of the seventh century and new works that interpret ancient dances with Western movement.

Gagaku (court music) and its accompanying dances were art forms that resulted from Japanese contact within Asia. Gagaku musicians of the Meiji era (1868-1912) studied Western music and composed new pieces in Western style with gagaku-type melodies. The program explains the variety of influences on this ancient court tradition.

Andean Music and Dances 500 Years Later

**Sunday, January 24
2:00 and 4:00 p.m.
Linder Theater**

Guillermo Guerrero presents live music, slides, and videos that reflect the European influences on Andean instruments, music, and dance.

China in 1492

**Sunday, January 31
2:00 p.m.
Kaufmann Theater**

In 1492 Columbus set out in search of Cathay (today's China), the land described by Marco Polo in the thirteenth century. Jonathan D. Spence will discuss Chinese society of the fifteenth century, focusing on its religious diversity, urban prosperity, and relationship to the sea. He'll then consider the receptions given to his 1492 visit to China during this period and speculate on how Columbus might have been received there.

Spence is the George Bur-

ton Adams Professor of History at Yale University. A recipient of the MacArthur Foundation's prestigious award, he has written numerous books about China, the most recent of which is *Chinese Roundabout*. This program is cosponsored by the China Institute in America.

Leonhardt People Center 1:00-4:30 p.m.

January 2 and 3

Filipino Music Traditions: Kulintang and Rondalla. Using gong drums and stringed instruments, members of the Karadya'an Ensemble of Amauan explain and demonstrate Spanish influences on Filipino musical traditions.

After Columbus: The Filipino Experience. Linda A. Pichon, executive director of Amauan, discusses the impact of Spanish rule on the culture and history of the Philippines.

Spanish Influence in Philippine Literature. Luis Cabalquinto reads excerpts that illustrate the impact of Spanish colonization on Philippine literary development.

January 9 and 10

Tradition and Change in Korean Performance. Duye Chang demonstrates the influence of Western contact on traditional Korean performing arts.

The Korean Retelling of Hollywood Movies. From 1910 to 1960 Korean storytellers acted out roles from Hollywood films — including the sound effects — for Korean audiences watching the films. Walter Lew describes the storytellers' reinterpretation of films.

Early Korean Experience in the United States. Aiyoun Choi explains who the early Korean immigrants were, why they came, and their influence on other immigrants.



The Karadya'an Ensemble performs on January 9

January 16 and 17

Koto Music: The Tradition of Innovation. Mutsumi Takamizu and Noriko Liao demonstrate and perform classical koto music. Ethnomusicologist Tomie Hahn introduces the pieces and explains their Western influences.

Early Japanese Views of the West. Kenneth J. Ruoff relates the impressions of early Japanese travelers to Europe and America.

Contributions of an "Unassimilable" Race: Japanese-Americans in Early Twentieth-Century America. Vernon Takeshita discusses the experiences of Japanese-Americans at the turn of the century and the increasing contradictions of American racial segregation.

January 23 and 24

European Colonization and Indian Dance. The impact of colonization on the decline and revival of Indian dance — from the second century to the present — is the focus of a presentation by Swati Bhise.

English as an Indian

Language. S. N. Sridhar and Kamal K. Sridhar offer an insightful and humorous look at how language adapts itself to new cultures.

Indians in the West. Madhulika S. Khandelwal discusses patterns of overseas migration from India.

January 30 and 31

Mei Lanfang, Master of Beauty. Kuang-Yu Fong profiles the art and life of Mei Lanfang, the great master of Peking Opera who introduced the opera to Western audiences during the early 1900s.

Three May Fourth Writers in the United States. Xie Bingxin, Wen Yiduo, and Hu Shi were among the most influential writers, scholars, and thinkers of early twentieth-century China. Charles Wu discusses their experiences in the United States and the subsequent effects on their literary creations.

Comparing Images. Artist Hua Lee discusses the differences between Chinese and European painting in the Ming and Qing dynasties and their cross-cultural influences.

Members' Workshop on

Japanese Cuisine

**Sunday, February 28
11:00 a.m. and 1:30 p.m.
\$15, and open only to Participating and Higher Members
Ages 18 and up**

Japanese culinary traditions and their relations to folklore are the focus of this Members' workshop, which also looks at Japanese dining and tea-drinking etiquette and gives some tips on eating with chopsticks.

Members will sample ten ingredients typical to Japanese cuisine. Host Pat Kinney will explain what each ingredient is and how it is used in preparing many of

the foods that Americans enjoy in Japanese restaurants. Participants will sample an assortment of Japanese dishes, and they'll attempt to identify which ingredients were used in them.

Pat Kinney has worked closely with the Japanese community in Greater New York for a dozen years. She has produced a series of television interviews in Japan for Fuji/Sankei and is currently

host and producer of *West Meets East* on Vision Cable in New Jersey. Kinney has lectured for Japan-America societies and has taught Japanese cooking at the New School, Bloomingdale's, and King's Cooking Studios.

The 90-minute presentation will take place in the Edith C. Blum Lecture Room. Use the coupon at right to register, and please note that tickets are available only by mail.

Members' Workshop on Japanese Cuisine. Sunday, February 28. Please indicate a first and second choice.

___ 11:00 a.m. ___ 1:30 p.m.

Number of Members' tickets at \$15
(no more than 2, please): ___

Total amount enclosed for program: ___

Name: _____

Address: _____

City: _____ State: _____ Zip: _____

Daytime telephone: _____

Membership category: _____

Please make check payable to the American Museum of Natural History and mail with a **self-addressed, stamped envelope** to: Cuisine, Membership Office, American Museum of Natural History, Central Park West at 79th Street, New York, NY 10024-5192

The Department of Education Presents

Spring 1993 Lecture Series

The Polar Explorers: Four Giants of the Arctic and Antarctic

Four Thursday evenings, starting March 18
7:00-8:30 p.m.

\$31.50 for Members, \$35 for non-Members

The North and South Polar regions have been a source of fascination since Aristotle first theorized that an unknown southern landmass balanced the weight of the northern continents. Author Kenneth A. Chambers, lecturer in zoology and a scholar of the history of polar exploration, will trace four of the most exciting expeditions in polar history.

Mar. 18: *A Gamble for the Pole*. Fridtjof Nansen and his search for the North Pole.

Mar. 25: *Endurance*. Sir Ernest Shackleton's epic voyage to the Antarctic.

Apr. 1: *Roald Amundsen Takes the South Pole*. A first glimpse of that "terrible place."

Apr. 8: *Hone of the Blizzard*. Sir Douglas Mawson's lone journey of survival.



The Polar Explorers (the ship Terra Nova on the British Antarctic Expedition of 1910-13)

Gems and Crystals from the American Museum

Four Thursday evenings, starting Feb. 25
7:00-8:30 p.m.

\$31.50 for Members, \$35 for non-Members

This four-session series uses Harold and Erica Van Pelt's magnificent photos of the American Museum's gems and crystals, including the fabulous Tiffany-Morgan gem collection. Participants will gain a deeper appreciation of the rich history and diversity of one of the world's finest gem collections.

Joseph J. Peters, senior scientific assistant in the Department of Mineral Sciences, will present the series, which features an optional tour of the J.P. Morgan Hall of Gems (see below for details of the tour)

Feb. 25: *Diamonds*. Properties, types and occurrences, history, legends and lore.

Mar. 4: *Emeralds, Rubies, and Sapphires*. Properties, types and occurrences, history, legends and lore.

Mar. 11: *Semiprecious Gems*. Beryls, topaz, tourmaline, zircon, opals, crystalline quartz, and other rare and unusual gems.

Mar. 18: *Ornamental and Organic Gems*. Jades, turquoise, lapis, pearl, coral, and amber.



Culture on Film (scene from Chang: A Drama of the Wilderness)

Tour of the J.P. Morgan Memorial Hall of Gems

Friday evening, Feb. 26
7:00-8:30 p.m.

\$15 (no discount for Members)

Joseph J. Peters, senior scientific assistant in the Department of Mineral Sciences, will lead a tour of the Hall of Minerals and Gems. Peters will discuss the design philosophy behind the hall, which was opened in 1976, and point out the special Fabergé menagerie, the Fabergé school of carving, and new acquisitions. Asterism — a starlike figure produced by reflected light, which can be seen in the Star of India and the De Long Ruby — will be discussed, along with the earth's pockets of gem crystals and the history and acquisition of the giant slab of nephrite jade.

Culture on Film

Three Tuesday evenings, starting Feb. 23
7:00-8:30 p.m.

\$27 for Members, \$30 for non-Members

This series will explore some of the ways in which filmmakers have represented other cultures. Elaine Charnov, a programmer of the Margaret Mead Film and Video Festival, hosts the series.

Feb. 23: *Chang: A Drama of the Wilderness*. This 1927 classic, directed by Merian C. Cooper and Ernest B. Schoedsack of King Kong fame, was shot in Thailand. The film will be followed by a discussion of its "man against nature" theme.

Mar. 2: *Films of Al Maysles*. This evening will



Weekend Whale Watch off Cape Cod



Animal Drawing

look at the work of one of the masters of the American documentary tradition, Al Maysles. Excerpts from *Grey Gardens*, the haunting story of a mother-daughter relationship that was filmed in a decaying East Hampton mansion.

Mar. 9: *Cross-Cultural Satire*. Two 30-minute films reverse the anthropological looking glass. In *Babakiuria* Australian Aborigines examine the tribe of middle-class Euro-Australians in their country, and in *Harold of Orange* Native Americans take a comic look at the ways in which others have represented them.

Wildflowers of the Northeast

Five Monday afternoons, starting Feb. 22 2:30-4:00 p.m.

or
Five Thursday evenings, starting Feb. 25 7:00-8:30 p.m.

\$36 for Members, \$40 for non-Members

Thousands of species of wildflowers are native to the northeastern United States. Some are common, others are rare, and all are part of the web of life. A variety of wildflowers of forest, meadow, pine barren, and wetland — including carnivorous bog plants, Arctic creepers, and ornate orchids — will be discussed by William Schiller, lecturer in botany for the Department of Education.

1. *Anatomy of a Wildflower*. Basic structure, family and environment.

2. *Mountaintop and Boreal Wildflowers*. Above the timberline and in the evergreen woodland below.

3. *Wildflowers of Moist Woodlands*. Spring and fall flowers.

4. *Wildflowers of Dry Environments*. Pine barrens and seashores.

5. *Wildflowers of the Wetlands*. Bogs, marshes, and swamps.

Spring 1993 Field Trips and Workshops

For field trip costs, itineraries, and applications, call (212) 769-5310.

Weekend for Bird Enthusiasts

Saturday and Sunday, May 1 and 2
Limited to 36 adults

Participants on this two-day trip take a bus to wooded areas near New York City and to the Pine Barrens of New Jersey, where they visit a lake and bog area. The group is accommodated overnight near Toms River. The tour continues to Brigantine National Wildlife Refuge, where many marsh birds as well as woodland species can be seen.

This trip is led by Jay Pitocchelli, associate professor of biology at Kutztown University.

Weekend Whale Watch off Cape Cod

Friday, Saturday, and Sunday, May 21, 22, and 23

Limited to 45 adults

Spend a weekend whale watching off the rich feeding grounds of Stellwagen Bank, near Cape Cod, where several species of whales are commonly seen at close range. Our search for these magnificent creatures involves three 4-hour private charter cruises from Provincetown. In addition to the marine biologists aboard the boat, two Museum staff members will accompany the group: Talbert Spence, environmentalist and chairman of the Education Department, and naturalist Stephen C. Quinn, who will assist in identifying the many species of coastal birds.

Other features of the weekend include optional guided nature walks along the dune and marsh areas of the Cape Cod National Seashore, an exploration of historic Provincetown, an evening slide-talk on marine mammals, and a stop at the reconstructed whaling port of Mystic, Connecticut. Cost includes transportation, two nights' accommodations, meals, and lectures.

Animal Drawing

Eight Tuesday evenings, starting March 9 7:00-9:00 p.m.

\$105 (no discount for Members)

Materials not included

Limited to 25 people

Join a Museum artist to sketch subjects such as gazelles on the African plains and timber wolves in the snowbound North. After the Museum has closed to the public, students gather to draw animals from the famed habitat groups as well as individual mounted specimens. Stephen C. Quinn, assistant manager in the Exhibition Department, discusses drawing technique, animal anatomy, the role of the artist at the Museum, field sketches, and how exhibits are made. Individual guidance is given to each participant, whether beginner or experienced artist.

The following exhibition halls serve as studios: the Akeley Hall of African Mammals, the halls of North American Mammals and Birds, and Ocean Life.

Walking Tour

Spring Flowers and Trees in Central Park
Saturday, May 1, and Wednesday, May 12 9:00-11:00 a.m.

Limited to 25 people

\$15 per walk (no discount for Members)

A two-hour morning walk in Central Park observes botanical signs of spring. Participants will learn about plant identification and ecology from William Schiller, lecturer in botany for the Education Department.

Lecture Series

I enclose a stamped, self-addressed envelope together with a check (or money order) payable to the American Museum of Natural History for: \$_____.

Advance registration is requested but registration will be accepted on the opening night if the course is not filled. *No single lecture tickets are sold.* There are no refunds. Children are not admitted to lectures, workshops, or field trips. For further information call (212) 769-5310.

Please print:

Course _____ Day _____ Hour _____

Course _____ Day _____ Hour _____

Name: _____

Address: _____

City: _____ State: _____ Zip: _____

Daytime telephone: _____

Please make check payable to the American Museum of Natural History and mail with a **stamped, self-addressed envelope to: Lecture Series, Education Department, American Museum of Natural History, Central Park West at 79th Street, New York, NY 10024-5192.**

A Great Legacy The Collections of the Pierpont Morgan Library

Thursday, January 28
7:00 p.m.
Kaufmann Theater
\$5 for Members, \$10 for non-Members

A wealth of rare books, manuscripts, and drawings is housed in the Pierpont Morgan Library. This remarkable collection — which encompasses the history, art, and literature of Europe and the United States from the Middle Ages to the twentieth century — is the focus of the Members' program *A Great Legacy: The Collections of the Pierpont Morgan Library*.

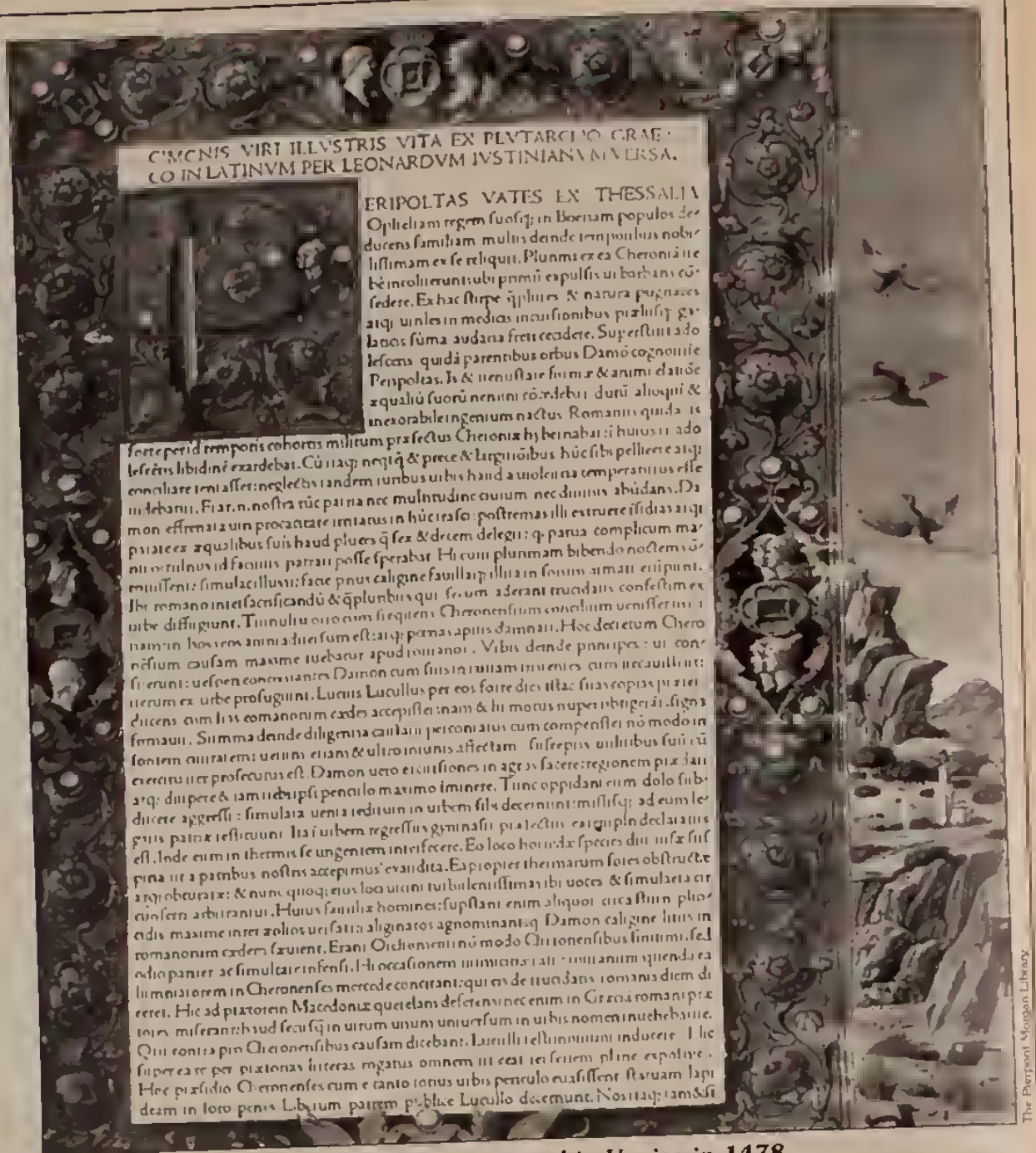
Charles E. Pierce, Jr., the library's director, will discuss the wide-ranging collections, which consist of not only the library's holdings but also other collections that were dispersed to other institutions such as the Metropolitan Museum and our own American Museum. Pierce is the fourth individual to serve as director in the library's seven decades.

The Morgan Library originated with the medieval and Renaissance manuscripts, rare books and fine bindings, and master drawings collected by J. Pierpont Morgan (1837-1913). Beginning in

1890 the magnate assembled a collection that rivaled the great libraries of Europe; within a decade, his holdings required a building of their own. The original library building, completed in 1906, was designed by Charles F. McKim as a Renaissance-style palazzo of formal elegance and understated grandeur.

In 1924 J. P. Morgan, Jr., transformed the library into a public institution as a memorial to his father's "love of rare books and manuscripts and his belief in the educational value of the collections" he had gathered. Today the library serves as both a museum and a center for scholarly research. The collections have grown many times over, but they maintain their focus on the written word and the history of books.

See below for details of the Members' guided tours of the Morgan Library. Use the coupon on page 3 to register for the program.



Plutarch's Lives, printed in Venice in 1478

Members' Tours of

The Pierpont Morgan Library

Thursday, February 18
10:30 a.m. and 1:00 p.m.
\$10, and open only to Participating and Higher Members
Ages 18 and up

Members are invited to visit a midtown palace of marble floors, antique wooden ceilings, and stained-glass windows. They'll see spectacular items from artistic, historical, and literary collections that span four millennia and a score of civilizations.

Originally the private library of financier J. Pierpont Morgan, the Pierpont Morgan Library has grown into a complex of buildings of differing styles and periods that covers half a city block. Its treasury of paintings, sculptures, and objets d'art ranges from inscribed tablets of Mesopotamia to the Gutenberg Bible, from prints by Rembrandt to Mozart's handwritten score of the Haffner Symphony, and from a first printing of the Declaration of Independence to a summary of the General Theory of Relativity in Einstein's own hand.

The tours will offer an overview of the institution's history and architecture, introducing the life and achievements of Pierpont Morgan, his activities as a collector, and the establishment of the library. The building's period



The library's East Room

rooms will be viewed along with some items from the permanent collection. (Charles E. Pierce, Jr., the library's director, will discuss the institution's history and holdings at a Members' program; see the other feature on this page for details.)

The tours will also view the library's current exhibition, *The Bernard H. Breslauer Collection of Manuscript Illuminations*. This exhibition offers a rare opportunity to see works from the finest

private collection of illuminated manuscript leaves in America. It features exquisitely wrought miniatures from the Romanesque period through the Renaissance and beyond and comprises more than 100 examples of Flemish, French, English, Spanish, and German manuscript paintings.

The tours will last about an hour. Use the coupon below to register, and please note that tickets are available only by mail.

Members' Tours of the Pierpont Morgan Library.

Thursday, February 18. Please indicate a first and second choice.

___ 10:30 a.m. ___ 1:00 p.m.

Number of Members' tickets at \$10
(no more than 2, please): ___

Total amount enclosed for program: ___

Name: _____

Address: _____

City: _____ State: _____ Zip: _____

Daytime telephone: _____

Membership category: _____

Please make check payable to the American Museum of Natural History and mail with a **self-addressed, stamped envelope** to: Morgan Library Tours, Membership Office, American Museum of Natural History, Central Park West at 79th Street, New York, NY 10024-5192.

**The Shoestring Players
Present**

Love, Magic, and Brussels Sprouts

**Saturday, January 30
1:30 and 3:30 p.m.
Kaufmann Theater
\$6 for Members,
\$10 for non-Members
Ages 5-12**

The Shoestring Players return to the Museum this month with an all-new program, *Love, Magic, and Brussels Sprouts*. Young audiences will be captivated by these original adaptations of folktales from around the

world.

The players will perform a witty and charming variety of lesser-known stories that are especially chosen for their ability to stimulate a child's thought and imagination. The Swedish folktale "Lars, My Lad!" stars a clever young man, a vain princess, an invisible helper, and an angry king. "Into the Jungle" is a comic tale from Java in which a princess chases a prince into the jungle — and barbarians chase the princess and the gods chase the barbarians. One of the oldest of Celtic stories, "The Black Horse," is a dramatic tale from ancient Ireland. A mysterious black horse carries its rider through fire, ice, and the ocean so that the forces of courage and love will triumph over evil. The show concludes with "Baba Yaga," a comedy about a foolish witch in old Russia.

The Shoestring Players have been performing their brand of innovative children's theater since 1980. Their philosophy is to create good theater on a shoestring budget with presentation techniques that are inventive and amusing. The magic of a Shoestring performance lies in its appeal to children's imaginations — with minimal changes of costume and without scenery or props, the actors transform themselves into mirrors, windmills, bridges, and a multitude of other devices.

The program lasts about an hour, with a brief intermission during which the audience can participate in a creative-dramatics adventure. Adults will enjoy the show at least as much as the children (and maybe more).

Use the January Members' programs coupon on page 3 to register.



The Shoestring Players

The World of Animals

**Saturday, February 20
11:30 a.m. and 1:30 p.m.
Kaufmann Theater
\$5 for Members, \$8 for non-Members
Ages 5 and up**

Join naturalist Bill Robinson for a real live look at wildlife ecology. His program *The World of Animals*, which shows how wild creatures adapt to their environments, features live animals on stage and a discussion of their roles in nature.

Guest stars include a legless lizard, an animal that has evolved to the point where it resembles a snake save for its eyelids and tiny ear openings. Anyone who's seen *Raiders of the Lost Ark* has seen scores of these bizarre creatures — the movie's seething "snake" pit was actually filled with legless lizards. Robinson once attempted to rescue a "snake" from the path of an oncoming car only to find that the animal snapped in two in his hands; the legless

lizard's tail, which is half of its length, breaks off in a struggle. Sometimes the predator is distracted by the wiggling tail and lets the upper body crawl off to safety (and to regenerate another tail).

A natural-born escape artist will join Robinson on stage. The armadillo can pull a get-away by using its powerful front legs to dig a burrow. Its dens are masterpieces of engineering that measure up to six feet long with pits four feet deep. Robinson will explain why there may be as many as 11 armadillos in a litter but the males have no sisters and the females no brothers.

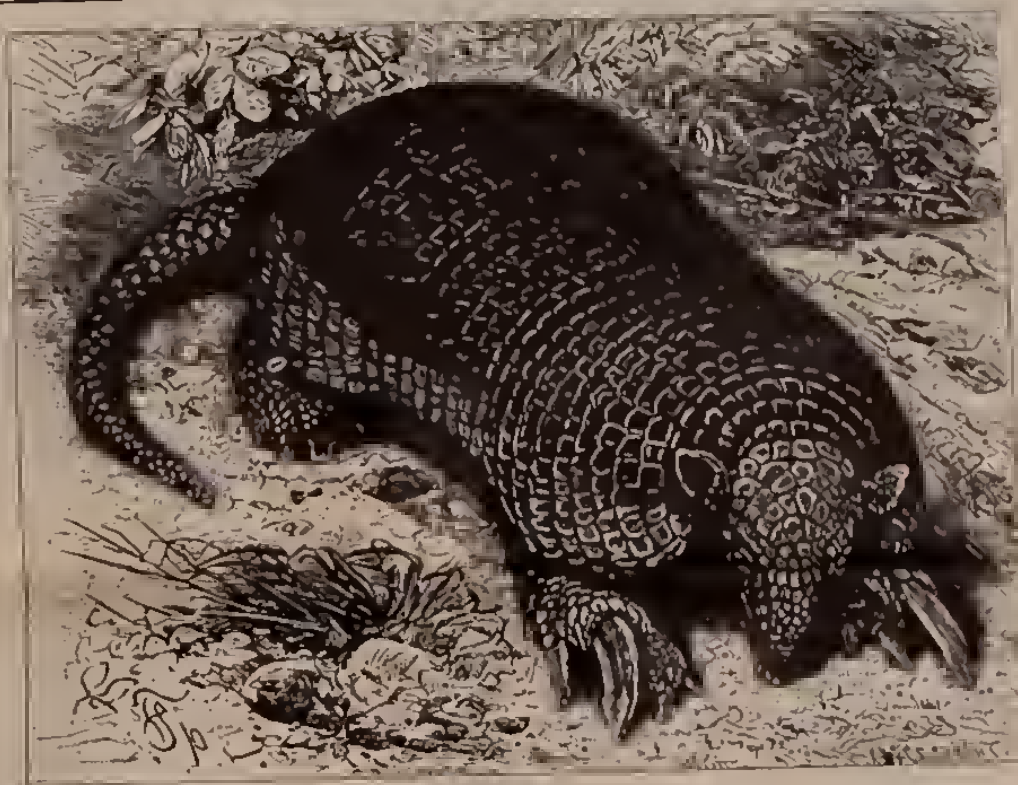
Among the other guests are a barking lizard, which will show its unusual method of bluffing predators, an alligator snapping turtle, a big

king cobra, which will rear up and spread its hood, and a 16-foot-long python that daring volunteers from the audience can come on stage to help hoist. And a pair of feathered friends — an owl and a red-tailed hawk — will

demonstrate their flight patterns by soaring over the audience's heads.

Robinson, who presents his dramatic wildlife programs to thousands of schoolchildren each year, has appeared at the Museum for the past 13

years. Please note that all attendees, parents and children alike, must have tickets, and strollers and babes in arms will not be admitted to the theater. Use the January Members' programs coupon on page 3 to register.



Classic Science-Fiction Film Series

This Island Earth

**Saturday, February 6
3:00 p.m.
Kaufmann Theater
\$4 for Members, \$7 for non-Members**

The Members' *Classic Science-Fiction Film Series* takes a look at some of the best sci-fi movies ever made. Brian Sullivan, the Hayden Planetarium's production designer, will introduce each movie in the series with a slide show focusing on the film's special effects and other features that mark it as a filmmaking milestone.

Next month's feature is *This Island Earth*, a 1955 production directed by Joseph M. Newman, starring Jeff Mor-

row, Faith Donnergue, and Rex Reason. It is about Earthlings who find themselves trapped on a planet that's being bombarded by meteors directed at it by an enemy planet.

The film is 87 minutes long and will be preceded by a 30-minute slide show. Upcoming films in the series are *Silent Running*, *Journey to the Far Side of the Sun*, and *Alien*. Use the January Members' programs coupon on page 3 to register.

Members' Workshops on

Reading and Interpreting Topographic Maps and Making Topographic Models

Tuesday, February 2, and Tuesday, February 9
5:30-7:30 p.m.

\$40 per person, and open only to Participating and Higher Members



Sidney Horenstein, the Museum's coordinator of environmental public programs, will present a two-part workshop that shows participants how to interpret topographic maps and make their own topographic models.

The first session will focus on the basics of map interpretation: topics include longitude, latitude, scale, and distance. Members will begin to learn how to read and interpret contour lines and how to make profiles of terrain on maps. At the second session the class will conclude its instruction on interpreting contours and learn the elements of constructing topographic models based on contour lines.

Participants should bring a sharp pair of scissors to class — all other materials are covered by the \$40 fee. Use the coupon at right to register, and please note that tickets are available only by mail.

Members' Workshops on Reading and Interpreting Topographic Maps and Making Topographic Models. Tuesday, February 2, and Tuesday, February 9, 5:30-7:30 p.m.

Number of Members' tickets at \$40
(no more than 2, please): _____

Total amount enclosed for program: _____

Name: _____

Address: _____

City: _____ State: _____ Zip: _____

Daytime telephone: _____

Membership category: _____

Please make check payable to the American Museum of Natural History and mail with a **self-addressed, stamped envelope** to: Top Maps, Membership Office, American Museum of Natural History, Central Park West at 79th Street, New York, NY 10024-5192.

Origami for Kids

Wednesdays, February 3, 10, and 17
4:00-5:30 p.m.
\$40, and open only to
Participating and Higher Members
Ages 8 and up



Michael Shall

Young Members can take their first steps in origami, the incredible art of paperfolding, at a series of three progressive classes.

Participants will start with the most basic folds and learn more complex models each week. They'll make boxes, birds, animals, flowers, fruit, and geometric shapes from a variety of papers from around the world. Neither scissors nor glue will be needed, and the \$40 fee includes all materials. Origami vocabulary and symbols will be introduced, and each student will receive illustrated instructions for the models they've learned so that they can reproduce their exciting new creations at home.

The sessions will be led by professional paperfolder Michael Shall, who is a master teacher.

Use the coupon at right to register, and please note that tickets are available only by mail.

Origami for Kids. Wednesdays, February 3, 10, and 17, 4:00-5:30 p.m.

Number of Members' tickets at \$40
(no more than 2, please): _____

Total amount enclosed: _____

Name: _____

Address: _____

City: _____ State: _____ Zip: _____

Daytime telephone: _____

Membership category: _____

Please make check payable to the American Museum of Natural History and mail with a **self-addressed, stamped envelope** to: Children's Workshop, Membership Office, American Museum of Natural History, Central Park West at 79th Street, New York, NY 10024-5192.

New and Improved

A variety of renovations are under way at the Museum. We are giving a new look to our dinosaurs and creating an up-to-date exhibition hall illustrating human biology and evolution.

While these renovations are taking place access to some exhibition halls will be re-

stricted. The halls of Earth History, Late and Early Mammals, and Late and Early Dinosaurs are closed until further notice.

Previews of the renovated fossil halls on the fourth floor are on display in Gallery 77. *Work in Progress: From Drawingboard to Dinosaurs*

features dinosaur bones and other specimens, along with models, plans, and drawings of the new halls now under construction. Dinosaur devotees should be sure to stop by the Roosevelt Memorial Hall on the second floor for a look at the *Barosaurus*, the world's tallest freestanding di-

nosaur exhibit.

Don't miss *Global Warming: Understanding the Forecast*, which features hands-on exhibits, multimedia displays, and interactive computer programs focused on one of the most important environmental issues of our time. The exhibition poses

important questions about climate change, shows how scientists are working to answer these questions, and suggests what individuals can do to reduce the risk of global warming. This month is the last chance to see *Global Warming* in Galley 3; it is on display through January 19.

Museum Notes

Hours

Exhibition Halls
Mon.-Thurs. & Sun.10:00 a.m.-5:45 p.m.
Fri. & Sat.10:00 a.m.-8:45 p.m.
The Museum Shop
Mon.-Thurs. & Sun.10:00 a.m.-5:45 p.m.
Fri. & Sat.10:00 a.m.-7:45 p.m.
The Junior Shop
Mon.-Fri.10:00 a.m.-4:45 p.m.
Sat. & Sun.10:00 a.m.-5:45 p.m.
The Museum Library
Tues.-Fri.11:00 a.m.-4:00 p.m.
Diner Saurus Fast Service Eatery
Daily11:00 a.m.-4:45 p.m.
Garden Cafe
Reservations: (212) 874-3436.
Lunch: Mon.-Fri.11:30 a.m.-3:30 p.m.
Dinner: Fri. & Sat.5:30-7:30 p.m.
Brunch: Sat. & Sun.11:00 a.m.-4:00 p.m.
Whale's Lair
Fri.3:00-8:00 p.m.
Sat.Noon-8:00 p.m.
Sun. & most holidaysNoon-5:00 p.m.
Snack Carts (at 77th Street & on the first floor of the Roosevelt Memorial Hall)
Sat. & Sun.11:00 a.m.-4:00 p.m.
The Discovery Room
Passes are distributed at the first-floor information desk beginning at 11:45 a.m. Ages 5-10. Children must be accompanied by an adult. Closed on holidays and weekdays.
Sat. & Sun.Noon-4:30 p.m.
The Natural Science Center
For children of all ages and their families. Closed on Mondays and holidays.
Tues.-Fri.2:00-4:30 p.m.
Sat. & Sun.1:00-4:30 p.m.

Entrances

During Museum hours visitors can enter the building through the 77th Street entrance, the parking lot entrance (81st Street), and the Roosevelt Memorial Hall entrance (79th Street and Central Park West). **Visitors attending programs after hours can enter the building through the driveway entrance at 79th Street and Central Park West.**

Naturemax

Tropical Rain Forest tells the story of the 400-million-year evolution of tropical rain forests and the efforts of scientists and researchers to understand these regions before they disappear. The film, which was shot in Queensland, Australia, Malaysia, and Costa Rica, is narrated by choreographer Geoffrey Holder and focuses on the rain forests' biological diversity. Daily showtimes are 10:30 and 11:30 a.m., 12:30, 1:30, 2:30, 3:30, and 4:30 p.m.

On Friday and Saturday evenings, Tropical Rain Forest is shown with The Magic Egg, a computer-animated visual journey that showcases the technology of IMAX filmmaking. Through the magic of computer graphics, viewers enjoy a high-speed flight through a blueprint city, take a digital roller coaster ride, and fly by Saturn. Showtimes are at 6:00 and 7:30 on Friday and Saturday evenings.

Schedules and prices are subject to change without notice. Call (212) 769-5650 for further information.

Admission (Participating and Higher Members):
Adults: \$4 single feature; \$5.50 double feature
Children: \$2 single feature; \$3 double feature

Birthday Parties

Theme parties for young Members 5-10 years old are two hours long and held at 3:30 p.m. on Wednesdays, at 4:00 p.m. on Fridays, and at



11:00 a.m. or 2:30 p.m. on weekends. The group should be no fewer than 10 and no more than 20. The fee is \$275 plus \$15 per child. (The cost includes all materials, juice, ice cream, and favor bags. The cake is not included.) Call (212) 769-5606 for further information.

Parking

The parking lot is located on 81st Street between Central Park West and Columbus Avenue. Space is limited and available on a first-come, first-served basis. Call the Membership Office at (212) 769-5606 for information about alternative parking.

Sun.-Thurs.9:30 a.m.-9:30 p.m.
Fri. & Sat.9:30 a.m.-midnight
Cars: \$12; Buses: \$11

Museum Tours

Free Museum Highlights Tours are available to individuals and families. Tours are conducted daily at 10:15 and 11:15 a.m., 1:15, 2:15, and 3:15 p.m. Free Spotlight Tours are also available to individuals and families. Current Spotlight Tour topics include dinosaurs, global warming, gems and minerals, and many others. Call the Volunteer Office for times and topics.

Group Tours are available for a fee. All Group Tours must be scheduled through the Volunteer Office. For details, call (212) 769-5566.

Happenings at the Hayden

Sky Show

Bold Visions . . . Distant Shores (beginning Jan. 6)

Long before European explorers reached the Americas these continents saw the rise of amazing civilizations — from North American deserts to Mexican and Andean jungles. *Bold Visions . . . Distant Shores* explores the sophisticated skylore of the Maya, Aztecs, Inca, and Anasazi and the ways in which this knowledge influenced their daily lives.

Showtimes:

Mon.-Fri.1:30 and 3:30 p.m.
Sat.11:00 a.m. (except for Jan. 2 and Feb. 6),
1:00, 2:00, 3:00, 4:00, and 5:00 p.m.
Sun.1:00, 2:00, 3:00, 4:00, and 5:00 p.m.

Admission to the Sky Show for Participating and Higher Members is \$4 for adults and \$2 for children. For non-Members' prices and additional information, call (212) 769-5900.

Lectures

On Wednesday, February 10, at 7:30 p.m., Margaret Geller of the Harvard Smithsonian Astrophysical Observatory will present an illustrated talk, "Mapping a Large Scale Structure of the Universe." She'll reveal surprising patterns in the universe that emerge through supercomputer animation as she presents three-dimensional representations of galaxies within a few hundred billion light years of the Milky Way.

This lecture will take place in the Sky Theater. Tickets are \$6 for Participating and Higher Members and \$8 for non-Members. Use the coupon at right to register, and for additional information call (212) 769-5900.

African Sky Lore

On Tuesday, February 16, at 7:00 p.m., Cheryl Byron and Something Positive will present African storytelling under the Planetarium's starry dome. They'll tell of African sky lore with assistance by dancers, musicians, and Planetarium effects.

This program is suitable for adults and children. Tickets are \$8 for Participating and Higher Mem-

bers and \$10 for non-Members. Use the coupon at right to register, and for additional information call (212) 769-5900.

Courses for Stargazers

The Planetarium offers a variety of courses on basic and advanced astronomy along with classes on meteorology and geology, aviation, and navigation. For further information about the courses call (212) 769-5900.

Children's Shows

Wonderful Sky is a special Sky Show for preschoolers. Children sing along with images of their favorite Sesame Street Muppets as they learn about rainbows, the phases of the moon, sunsets, and stars. Sat., Jan. 2, at 10:30 a.m., and Sat., Feb. 6, at 10:30 and 11:45 a.m. Admission for Participating and Higher Members is \$4 for adults and \$2 for children.

Shows usually sell out in advance; reservations, by mail only, are necessary. Make your check payable to the Hayden Planetarium (Attn: Wonderful Sky, Central Park West at 81st Street, New York, NY 10024), indicate membership category and a first and second choice of showtimes, and include a self-addressed, stamped envelope. For additional information, call (212) 769-5900.

Robots in Space features Lucasfilm's R2D2 and C-3PO and has been created especially for children ages 7 to 12. Together with a live host, these famous space robots take children on a tour of the universe. See how satellites and probes — the real space robots — help us learn about worlds near and far. Journey from the earth to other planets and distant black holes. Sat., Jan. 2, at 11:45 a.m. Admission for Participating and Higher Members is \$4 for adults and \$2 for children. For additional information, call (212) 769-5900.

Laser Shows

Journey into another dimension where laser visuals and rock music combine to create a dazzling 3-D experience of sight and sound. Shows are presented

on Fridays and Saturdays at 7:00, 8:30, and 10:00 p.m. For prices and show schedule, call (212) 769-5900.

It's always a good idea to call before visiting the Planetarium, since prices, programs, and showtimes are subject to change without notice. For general Planetarium information, call (212) 769-5900.

Lecture: "Mapping a Large Scale Structure of the Universe." Wednesday, February 10, 7:30 p.m.

Number of Members' tickets at \$6: _____
Number of non-Members' tickets at \$8: _____
Total amount enclosed for program: _____

African Storytelling. Tuesday, February 16, 7:00 p.m.

Number of Members' tickets at \$8: _____
Number of non-Members' tickets at \$10: _____
Total amount enclosed for program: _____

Name: _____

Address: _____

City: _____ State: _____ Zip: _____

Daytime telephone: _____

Please make check payable to the Hayden Planetarium and mail with a **self-addressed, stamped envelope** to: Lecture, Hayden Planetarium, Central Park West at 81st Street, New York, NY 10024-5192.

Please note that ticket orders are subject to availability and cannot be processed without telephone number and stamped, self-addressed envelope. **Do not include ticket requests or checks for American Museum programs.**

Sun

January 1993

American
Museum of
Natural History

3 1:00-4:30 p.m. Leonhardt People Center events. See page 5.
2:00 p.m. NY Shell Club. Room 319. Free.
Last chance to see *The Star of Christmas* at the Hayden Planetarium.

Mon

Tue

Wed

Thu

Fri

Sat

Mailing List

From time to time we make our Member list available to carefully screened companies whose products or services may be of interest to you. If you don't want to receive any promotional mail other than the Museum's, please send your mailing label from *Natural History* with a request to delete your name to:
Membership Office/No Promotional Mail
American Museum of Natural History
79th Street at Central Park West
New York, NY 10024-5192
Please be assured we will take prompt action.



1 Happy New Year! The Museum is open.

2 11:00 a.m. NY Map Society. Room 319. Free.

1:00-4:30 p.m. Filipino Music Traditions: Kulintang and Rondallo: *After Columbus: The Filipino Experience*. Spanish Influence in Philippine Literature. Leonhardt People Center. Free. Page 5.

6 7:45 p.m. Amateur Astronomers Association. Kaufmann Theater. Free.

7 7:00 p.m. *Jews of Yemen: A Vanishing Culture*. Members' evening program. Main Auditorium. \$7 for Members, \$10 for non-Members. Page 1.
8 3:00, 4:30, and 6:00 p.m. *The Geology of Southern Asia*. Members' Museum tour. \$16, and open only to Participating and Higher Members. Tickets required. Page 2.

9 1:00-4:30 p.m. *Tradition and Change in Korean Performance: The Korean Retelling of Hollywood Movies: Early Korean Experience in the United States*. Leonhardt People Center. Free. Page 5.

2:00 and 4:00 p.m. *Lumad: Indigenous Filipino Music and Dance*. Kaufmann Theater. Free. Page 5.

13



14 7:00 p.m. *Robbers, Assassins, and Manipulators: Some Bees I Have Known*. Members' evening program. Kaufmann Theater. Free for Members, \$7 for non-Members. Page 2.

15

16 1:00-4:30 p.m. *Koto Music: The Tradition of Innovation: Early Japanese Views of the West: Contributions of an "Unassimilable" Race: Japanese-Americans in Early Twentieth-Century America*. Leonhardt People Center. Free. Page 5.

11 Last chance to see the Origami Holiday Tree.

12 7:30 p.m. Linnaean Society. Linder Theater. Free.

The Museum receives substantial support from a number of major sources. We are particularly grateful to the City of New York, which owns the Museum buildings and provides funds for their operation and maintenance, and to the New York State Council on the Arts, National Science Foundation, National Endowment for the Arts, National Endowment for the Humanities, Institute for Museum Services, 300 corporations, 100 private foundations, 520,000 members, and numerous individual contributors.

10 10:30 a.m. and 1:00 p.m. *Calendar Making*. Members' adult-child workshop. \$26 per couple, and open only to Participating and Higher Members. Tickets required. Page 2.
1:00-4:30 p.m. Leonhardt People Center events. See page 5.
2:00 and 4:00 p.m. *Asians in America in the Last 100 Years*. Kaufmann Theater. Free. Page 5.

17 10:30 a.m. NY Turtle and Tortoise Society. Room 319. Free.

18 Martin Luther King, Jr., Day. The Museum is open.

1:00-4:30 p.m. Leonhardt People Center events. Free. Page 5.

2:00 p.m. NY Paleontological Society. Room 319. Free.

2:00 and 4:00 p.m. *Music and Dance of the Japanese Court*. Kaufmann Theater. Free. Page 5.

24 1:00-4:30 p.m. Leonhardt People Center events. Free. Page 5.

2:00 and 4:00 p.m. *Andean Music and Dances 500 Years Later*. Linder Theater. Free. Page 5.

31 1:00-4:30 p.m. Leonhardt People Center events. Free. Page 5.

2:00 p.m. *China in 1492*. Kaufmann Theater. Free. Page 5.

20

21 Members' Behind-the-Scenes Tours of the Department of Entomology. \$12, and open only to Participating and Higher Members. Tickets required. Page 2.

22 Jumbo exhibit opens. Page 3.

23 Members' Behind-the-Scenes Tours of the Department of Entomology. \$12, and open only to Participating and Higher Members. Tickets required. Page 2.

1:00-4:30 p.m. *European Colorization and Indian Dance: English as an Indian Language: Indians in the West*. Leonhardt People Center. Free. Page 5.

26 5:30-7:30 p.m. *Identifying Rocks and Their Minerals*. Members' workshop. \$40, and open only to Participating and Higher Members. Tickets required. Page 2. **SOLD OUT**

7:00 p.m. NY Entomological Society. Edith C. Blum Lecture Room. Free.
Last chance to see *Global Warming* in Gallery 3.

27 6:00-8:00 p.m.

Our Own Backyard: The Hudson River and NY Harbor. Part 1 of 5 sessions on Hudson River ecology, geology, and hydrology. Main Auditorium. For further information call Friends of Fishes at (212) 289-3605 or fax (212) 427-6659.

28 7:00 p.m. *A Great Legacy: The Collections of the Pierpont Morgan Library*. Members' evening program. Kaufmann Theater. \$5 for Members, \$10 for non-Members. Page 8.

29

30 1:00-4:30 p.m. *Mei Lanfang, Master of Beauty: Three May Fourth Writers in the US: Comparing Images*. Leonhardt People Center. Free. Page 5.

1:30 and 3:30 p.m. *Love, Magic, and Brussels Sprouts*. Members' family program for the Shoestring Players. Kaufmann Theater. \$6 for Members, \$10 for non-Members. Page 9.

ROTUNDA

Vol. 18, No. 2 February 1993

For Participating and Higher Members of the American Museum of Natural History



Albi-Mara Magadi/African Wildlife Foundation

Cynthia Moss, who has studied elephants and worked for their conservation for the past 25 years, will tell Members of her research at Amboseli National Park in Kenya.



Joyce Poole/African Wildlife Foundation



Joyce Poole/African Wildlife Foundation

Echo of the Elephants

Thursday, March 4
7:30 p.m.
Main Auditorium
\$8 for Members, \$12 for non-Members

Meet Echo, the elephant matriarch, and the closely knit family that she holds together within Kenya's Amboseli National Park. The history of Echo's 14-member family — their births, deaths, tragedies, and joys — is the focus of a Members' program by conservationist Cynthia Moss.

Moss, who spent 18 eventful months following Echo and her kin, will discuss day-to-day life among the elephants. She'll describe their family units, which usually consist of adult females and their offspring, and the intriguing methods by which the less-social males find mates.

Born and educated in the United States, Moss moved to Africa in 1968

and has spent the past 25 years there studying elephants and working for their conservation. Her involvement with elephants began at Lake Manyara National Park in Tanzania, where she worked with Iain Douglas-Hamilton on his pioneering elephant study.

In 1972 she began the longest continuing study of these mammals, the Amboseli Elephant Research Project in Kenya, which she continues to direct. Moss is also a senior associate with the Washington, DC-based African Wildlife Foundation, which supports her research. As part of her conservation efforts, she has conducted surveys of other elephant populations in Kenya, Tanzania,

Zaire, and Botswana. Over the years she has come to know and recognize more than 700 different individuals, which has enabled her to chronicle their relationships, social organization, behavior, and life cycles.

Moss's appearance at the Museum next month is presented in conjunction with the publication of her third book, *Echo of the Elephants* (Morrow). Use the coupon on page 3 to register for the program.

Members may wish to complement their evening with the elephants by arriving early to take a look at the Museum's current *Jumbo* exhibit on the first floor of the Roosevelt Memorial Hall. Come into the Museum

through the driveway entrance at 79th Street and Central Park West, where the exhibit about P.T. Barnum's world-famous circus elephant is on display. Volunteer Highlights Tour guides will be available to discuss the exhibit.

In the Hall of Northwest Coast Indians (just outside the Auditorium) there will be a special display of specimens from the Museum's collections for Members to observe. Jean Augustin, senior technician in the Department of Mammalogy, will be on hand to discuss fascinating aspects of elephant physiology, and he'll illustrate his remarks with specimens of teeth, tusks, and hide.

Members' Workshops on

Reading and Interpreting Topographic Maps and Making Topographic Models

Tuesday, February 2, and Tuesday, February 9
5:30-7:30 p.m.

Sidney Horenstein, the Museum's coordinator of environmental public programs, will present a two-part workshop that shows participants how to interpret topographic maps and make their own topographic models.

Tickets are \$40 and available only to Participating and Higher Members. Call the Membership Office at (212) 769-5606 for information about ticket availability.

Origami for Kids

Wednesdays, February 3, 10, and 17
4:00-5:30 p.m.

Young Members can learn how to make boxes, birds, animals, flowers, and fruit using only colored paper and their own folding fingers. At *Origami for Kids* professional paperfolder Michael Shall will introduce participants to the most basic folds, and the classes will learn more complex origami models each week.

Tickets are \$40 and avail-

able to Participating and Higher Members ages 8 and up. Call the Membership Office at (212) 769-5606 for information about ticket availability.

Ice Fishing

Saturday, February 6
9:00 a.m.-5:00 p.m.

Join Friends of Fishes, curators from the Department of Ichthyology, and members of the Hudson River Foundation for a spectacular day of nature walks, ice fishing, and a gourmet catered lunch at Blue Mountain Lodge in Peekskill, New York.

Tickets are \$60 per person and available only to Participating and Higher Members. The fee includes lunch and roundtrip bus transportation from the Museum to Blue Mountain Lodge. For further information call (212) 289-3605 or fax (212) 427-6659.

Members' Tours of

The Pierpont Morgan Library

Thursday, February 18
10:30 a.m. and 1:00 p.m.

SOLD OUT
from previous issue

Members can take a guided tour of the Pierpont Morgan Library, an elegant midtown building that houses a remarkable collection of artistic,

historical, and literary works. The institution's history and architecture will be discussed, along with the collection's growth from an assortment of Renaissance manuscripts and rare books to a fabulous treasury of paintings, sculptures, and objets d'art. The tours will also view the library's current exhibition *The Bernard H. Breslauer Collection of Manuscript Illuminations*.

The tours will last about an hour. Tickets are \$10 and available only to Participating and Higher Members ages 18 and up.

Members' Workshop on

Japanese Cuisine

Sunday, February 28
11:00 a.m. and 1:30 p.m.

Japanese culinary traditions and their relations to folklore are the focus of this Members' workshop, which also looks at Japanese dining and tea-drinking etiquette and gives some tips on eating with chopsticks.

The 90-minute programs will be presented by Pat Kinney in the Edith C. Blum Lecture Room. Tickets are \$15 and available only to Participating and Higher Members. Call the Membership Office at (212) 769-5606 for information about ticket availability.

Classic Science-Fiction Film Series

This Island Earth

Saturday, February 6

Invaders from Mars

Saturday, March 6

3:00 p.m.

Kaufmann Theater

\$4 for Members, \$7 for non-Members

The Members' Classic Science-Fiction Film Series takes a look at some of the best sci-fi movies ever made. Brian Sullivan, the Hayden Planetarium's production designer, will introduce each movie in the series with a 30-minute slide show focusing on the film's special effects and other features that mark it as a filmmaking milestone.

February's feature is *This Island Earth*, a 1955 production directed by Joseph M. Newman, starring Jeff Morrow, Faith Domergue, and Rex Reason. It is about Earthlings who find themselves trapped on a planet that's being bombarded by meteors

sent by an enemy planet. The film is 87 minutes long.

Invaders from Mars, next month's feature, is a 1953 cult favorite directed by William Cameron Menzies. David, the 12-year-old hero, is an amateur astronomer whose troubles begin when he sees a flying saucer disappear into a sandhill in his backyard. No one believes that David saw the flying saucer, not even when people are sporting peculiar X-shaped scars on their necks and acting very strange. Can David beat the Martians and save the world?

Use the February Members' programs coupon on page 3 to register.

A Fifth-Grade Special

Friends of Fishes has formed a new committee to educate students about the Hudson River and its fauna. The committee consists of students who want to share their enthusiasm for science by giving fifth-graders the opportunity for hands-on experience. The program will explore the variety of fish in the Hudson River through

informal discussion, displays, and a petting tank.

The 90-minute sessions take place two Saturdays each month. The program is open to all fifth-graders and is limited to 16 students per session. For further information call Heidi Michelsen, director of the Elementary Education Committee at (212) 289-3605 or fax (212) 427-6659.

ROTUNDA

ISSN 0194-6110

Vol. 18, No. 2
February 1993

Donna Bell — Editor
Sheila Greenberg — Manager of Membership Services
Angela Soccodato — Designer
Rita Campon — Copy Editor
Evelyn Robbins — Proofreader
Peter Zelazny — Fulfillment Coordinator

Rotunda, a publication for Participating and Higher Members of the American Museum of Natural History, is published monthly September through June, bimonthly July and August. Publication offices are at *Natural History* magazine, American Museum of Natural History, Central Park West at 79th Street, New York, NY 10024-5192. Telephone: (212) 769-5606. Subscriptions: \$50 a year for Participating Membership, \$100 a year for Contributor Membership. © 1993 American Museum of Natural History. Second-class postage paid at New York, NY. Postmaster: Please send address changes to: *Rotunda*, Membership Office, American Museum of Natural History, Central Park West at 79th Street, New York, NY

Printed by Waldon Press, Inc. New York

341



The Pierpont Morgan Library

The Morgan Library's collection includes a twelfth-century Belgian triptych (top), the French "Bonquet Scene" (left), and Albrecht Dürer's "Adam and Eve"

O'Keeffe and Stieglitz: An American Romance

Wednesday, February 10
7:00 p.m.
Kaufmann Theater
\$6 for Members, \$10 for non-Members

They were an extraordinary couple from the start. Alfred Stieglitz, a 52-year-old master of photography, was introduced to Georgia O'Keeffe's work before he ever met her. Although she was barely scraping by as a teacher, the 28-year-old O'Keeffe was uncowed by Stieglitz's reputation and enraged at his presumption in exhibiting her work. Evenly matched in

force of character, each was the other's critic and inspiration, and their love story is legendary.

Benita Eisler explores the myths and realities of the O'Keeffe-Stieglitz relationship as she discusses her book, *O'Keeffe and Stieglitz: An American Romance* (published in hardcover by Doubleday and in paperback by Penguin). Eisler chronicles the

stormy relationship between these artistic titans and captures the flavor of their times and milieu, from the vibrant bustle of New York in the twenties to the desert grandeur of Abiquiu, New Mexico. Eisler, a former art editor, will sign copies of her book, which will be available for purchase at the program. Use the February Members' programs coupon to register.

Members' Tours The Museum: Inside and Out

Friday, March 26
3:00, 4:30,
and 6:00 p.m.
\$16, and open only
to Participating and
Higher Members

Members can hear all about the natural history of the American Museum at special tours that explore the Museum's insides and outsides. Sidney Horenstein, the Museum's coordinator of environmental public programs, will lead a fascinating walk around this celebrated landmark and tell listeners the history of its construction.

The tours will step outside for an overview of the Museum's geology, geography, and varieties of architectural styles. Back inside, they'll survey the diversity of stones used in the building's construction and hear about the geological history the stones reveal. They'll also inspect the fossils that are trapped in the very walls.

The Museum: Inside and Out is an encore presentation of one of our most popular Museum tours, and prompt registration is advised for the limited number of places. Use the coupon at right to register, and please note tickets are available only by mail.



1891 Engraving of Museum façade

The Museum: Inside and Out. Friday, March 26. Please indicate a first, second, and third choice.

___ 3:00 p.m. ___ 4:30 p.m. ___ 6:00 p.m.

Number of Members' tickets at \$16
(no more than 2, please): ___
Total amount enclosed for program: ___

Name: _____

Address: _____

City: _____ State: _____ Zip: _____

Daytime telephone: _____

Membership category: _____

Please make check payable to the American Museum of Natural History and mail with a **self-addressed, stamped envelope** to: *Inside and Out*, Membership Office, American Museum of Natural History, Central Park West at 79th Street, New York, NY 10024-5192

February Members' Programs Coupon

Name: _____

Address: _____

City: _____ State: _____ Zip: _____

Daytime telephone: _____

Membership category: _____

Total amount enclosed: _____

Please make check (if applicable) payable to the American Museum of Natural History and mail with a **self-addressed, stamped envelope** to: *February Members' Programs*, Membership Office, American Museum of Natural History, Central Park West at 79th Street, New York, NY 10024-5192.

**Telephone reservations are not accepted.
No refunds or exchanges.**

Unless otherwise indicated, no more than eight tickets may be ordered for a program. Participating Members are entitled to four tickets per program at the Members' price. Higher Members are entitled to six tickets, and Associate Members are entitled to one ticket.

This Island Earth. Saturday, February 6, 3:00 p.m.

Number of Members' tickets at \$4: ___

Number of additional tickets at \$7: ___

Total amount enclosed for program: ___

O'Keeffe and Stieglitz

Wednesday, February 10, 7:00 p.m.

Number of Members' tickets at \$6: ___

Number of additional tickets at \$10: ___

Total amount enclosed for program: ___

What the Bones Tell Us

Wednesday, February 17, 7:00 p.m.

Number of free Members' tickets

(no more than 2, please): ___

Number of additional tickets at \$4: ___

Number of non-Members' tickets at \$7: ___

Total amount enclosed for program: ___

The World of Animals. Saturday, February 20. Please indicate a first and second choice.

___ 11:30 a.m. ___ 1:30 p.m.

Number of Members' tickets at \$5: ___

Number of additional tickets at \$8: ___

Total amount enclosed for program: ___

Rio Roosevelt. Thursday, February 25, 7:00 p.m.

Number of Members' tickets at \$7: ___

Number of additional tickets at \$10: ___

Total amount enclosed for program: ___

Echo of the Elephants. Thursday, March 4, 7:30 p.m.

Number of Members' tickets at \$8: ___

Number of additional tickets at \$12: ___

Total amount enclosed for program: ___

Invaders from Mars. Saturday, March 6, 3:00 p.m.

Number of Members' tickets at \$4: ___

Number of additional tickets at \$7: ___

Total amount enclosed for program: ___

Making Silent Stones Speak

Tuesday, March 9, 7:00 p.m.

Number of free Members' tickets

(no more than 2, please): ___

Number of additional tickets at \$4: ___

Number of non-Members' tickets at \$7: ___

Total amount enclosed for program: ___

Egyptian Priestesses and Power

Friday, March 19, 7:00 p.m.

Number of Members' tickets at \$6: ___

Number of additional tickets at \$10: ___

Total amount enclosed for program: ___

NOTE: Orders received less than ten days before show dates will be held for pick-up at the door on the day of the program if tickets are still available. If an event is sold out, you will be advised in writing or by phone and your check will be returned. Babies in arms or strollers will not be admitted to programs.

Making Silent Stones Speak

Tuesday, March 9

7:00 p.m.

Kaufmann Theater

Free for Members, \$7 for non-Members



Cracking mongongo nuts with stone tools

Who were the earliest tool makers? How did they live, and what kinds of tools did they make and use? Most important, how did this early technology influence human evolution?

At the Members' program *Making Silent Stones Speak* archeologist Nicholas Toth will address these questions to offer a fascinating look at the world of our Stone Age ancestors. He'll transport listeners to the other side of the world — the savannas of East Africa, the plains of northern China, and the mountains of New Guinea — to show how early prehistoric sites have been discovered, excavated, studied, and interpreted. He'll also trace time back more than 2 million years to the point when a tool-making animal stood poised to step into the future of humankind.

Toth, who spent five years teaching himself to make and use Stone Age tools, will

describe the combination of intellectual detective work and hands-on experimentation that enabled him to make the silent stones speak. He'll explain how his re-creation of primitive technology helped him to reconstruct the lives of Stone Age humans and the beginnings of civilization.

In manufacturing stone tools, our primitive ancestors learned to favor their right hands over their left, thus encouraging "brain lateralization," the right-brain/left-brain split that plays a role in human intelligence and creativity. Tool making gave early humans access to new sources of food, including protein from meat, which helped the species grow, and created new forms of social behavior, including planning ahead for the manufacture and use of tools. Toth will discuss the movement of early humans away from Africa, how they tamed fire, and

when they began to domesticate plants and animals.

An expert in prehistoric technology, Nicholas Toth was described by the *San Francisco Chronicle* as "the scientific world's most experienced maker and user of primitive stone tools." A distinguished scholar, Toth holds graduate degrees from Oxford and Berkeley. His pioneering work has been featured in *National Geographic*, *Scientific American*, and many other publications. His book, *Making Silent Stones Speak: Human Evolution and the Dawn of Technology* (Simon and Schuster), which he wrote with anthropologist Kathy Schick, will be available for purchase at the program. Toth will sign copies of the book after the show.

This program is presented in conjunction with the upcoming opening of the Museum's newest permanent exhibition, the Hall of Human Biology and Evolution. The new hall will feature state-of-the-art technology that illustrates human biology, anatomy, evolution, and creativity. Members can attend a preview of the hall on Thursday, April 1 (details about the preview will appear in next month's Rotunda).

Use the February Members' programs coupon on page 3 to register.

What the Bones Tell Us

Wednesday,

February 17

7:00 p.m.

Kaufmann Theater

Free for Members,

\$7 for non-Members

There are no right or wrong interpretations of historical science, asserts anthropologist Jeffrey Schwartz. What counts, he says, are the data and the context in which evidence is assessed. At the Members' program *What the Bones Tell Us* Schwartz will explore conflicting ideas about human origins and evolution.

Focusing on the inner workings of archeology and anthropology, Schwartz explains what can be learned from fossils and fragments of ancient cultures and civilizations. Bone fragments can be used not only to identify animal species but also to tell of their past history. Studies of bones can show the land's past capacity to sustain animal life, whether domestic or wild. Every living creature — whether it's considered a part of a civilization, a species, or a diverse evolutionary group — has a unique history. This

makes its discovery more than just a matter of unearthing a fossil or sequencing a species' DNA; it's an issue of interpreting data in order to reconstruct the missing pieces of a puzzle.

A professor of physical anthropology at the University of Pittsburgh, Schwartz is also a research associate at the American Museum. Copies of his new book, *What the Bones Tell Us* (Henry Holt and Company), will be available for purchase at the program, and Schwartz will sign copies after the lecture.

This program is presented in conjunction with the upcoming premiere of the Museum's newest exhibition, the Hall of Human Biology and Evolution. Members will have the chance to preview the new hall — see next month's Rotunda for details.

Use the coupon on page 3 to register.

The 1992 Rio Roosevelt Expedition

Thursday, February 25

7:00 p.m.

Kaufmann Theater

\$7 for Members, \$10 for non-Members

Theodore Roosevelt's last adventure was a two-month odyssey down a 930-mile-long Amazon tributary that had never before been explored. This "River of Doubt" — so called because no one knew exactly where it went — has since been named for the former president, who nearly died during the 1914 expedition. Last year a team of 20 Brazilians and Americans used Roosevelt's extensive maps, photographs, and his book *Through the Brazilian Wilderness* to retrace his journey. Their historical comparison documented environmental changes in one of the world's most remote regions.

Tweed Roosevelt, Theodore Roosevelt's great-grandson, will tell Members about his experiences on the 1992 Rio Roosevelt expedition, which was only the third known navigation of the river. Nobody has traveled its length

since 1926, when a second expedition verified the original explorers' findings and quieted suspicions about the earlier journey's authenticity.

Two scientists from the American Museum were among the 1914 expedition members. The survey and mapping expedition, which was sponsored by the Brazilian government, is Theodore Roosevelt's "forgotten" expedition, overshadowed by his better-known adventures in Africa and the American West. The former Rough Rider and his party endured harrowing setbacks — several of their dugout canoes were sunk or crushed by rapids and rocks and had to be replaced on the spot. Virtually all of the explorers came down with jungle fever and infections or suffered other injuries, and three of them died.

The 1992 adventurers had the advantages of modern

conveniences such as satellite technology, freeze-dried food, and modern tents and insect repellents. Nonetheless they faced the ongoing discomforts of sweltering heat, rain, and high humidity along with the perils posed by insects, snakes, and piranha.

They encountered thousands of insects and hundreds of plant and fish samples, many of which had never been cataloged by outsiders. Tweed Roosevelt collected insects for the American Museum's Entomology Department and mollusks for Harvard's Museum of Comparative Zoology. He and the other expedition members found the region remarkably unchanged over the past 78 years and believe they experienced it much the way the former president did.

Use the February Members' programs coupon on page 3 to register for the program.

Egyptian Priestesses and Power

From Nefertiti to Cleopatra the Great

Friday, March 19

7:00 p.m.

Kaufmann Theater

\$6 for Members, \$10 for non-Members

Ancient Egyptian priestesses often served as divine consorts for the state's most important deities and played key roles in their husbands' reigns. Sometimes these women ruled as pharaohs in their own right.

At *Egyptian Priestesses and Power, from Nefertiti to Cleopatra the Great*, Robert Steven Bianchi will explore the fundamental concepts of the ancient Egyptian male-female relationships from a theoretical and religious perspective. He'll review the careers of Egypt's most illustrious women, from Nefertiti, the wife of the pharaoh

Akhenaten, to Cleopatra VII, the country's last resident ruler.

Currently a J. Clawson Mills Fellow at the Metropolitan Museum of Art, Bianchi served as curator of the Egyptian Department at the Brooklyn Museum for 15 years, during which time he organized the international loan exhibition *Cleopatra's Egypt — Age of the Ptolemies*. His latest book, *Inside the Tomb of Nefertiti*, was published in November by the J. Paul Getty Museum.

Use the February Members' programs coupon on page 3 to register for the program.

The World of Animals

Saturday, February 20
11:30 a.m. and 1:30 p.m.
Kaufmann Theater
\$5 for Members, \$8 for non-Members
Ages 5 and up



Join naturalist Bill Robinson for a real live look at wildlife ecology. His program *The World of Animals*, which shows how wild creatures adapt to their environments, features live animals on stage and a discussion of their roles in nature.

Guest stars include a legless lizard, an animal that has evolved to the point where it

resembles a snake save for its eyelids and tiny ear openings. Anyone who's seen *Raiders of the Lost Ark* has seen scores of these bizarre creatures — the movie's seething "snake" pit was actually filled with legless lizards. Robinson once attempted to rescue a "snake" from the path of an oncoming car only to find that the animal snapped in two in his hands; the legless lizard's tail, which is half of its length, breaks off in a struggle. Sometimes the predator is distracted by the wiggling tail and lets the upper body crawl off to safety (and to regenerate another tail).

A natural-born escape artist will join Robinson on stage. The armadillo can pull a get-away by using its powerful front legs to dig a burrow. Its dens are masterpieces of

engineering that measure up to six feet long with pits four feet deep. Robinson will explain why there may be as many as 11 armadillos in a litter but the males have no sisters and the females no brothers.

Among the other guests are a barking lizard, which will show its unusual method of bluffing predators, an alligator snapping turtle, a big king cobra, which will rear up and spread its hood, and a 16-foot-long python that daring volunteers from the audience can come on stage to help hoist. And a pair of feathered friends — an owl and a red-tailed hawk — will demonstrate their flight patterns by soaring over the audience.

Robinson, who presents his dramatic wildlife programs to thousands of schoolchildren each year, has appeared at the Museum for the past 13 years. Please note that all attendees, parents and children alike, must have tickets, and strollers and babes in arms will not be admitted to the theater. Use the February Members' programs coupon on page 3 to register.

Too Much Mail?

The Membership Office recently mailed a letter to prospective Members asking them to join the Museum. In spite of our best efforts to remove the names of our

current Members from this mailing, you may have received one of these letters. Please accept our apology. Would you consider passing the letter on to a friend? Your help in reaching new Members is greatly appreciated.

Members' Adult-Child Workshop

So You Want to Change the World?

Sunday, March 7
10:30 a.m.-noon and 1:00-2:30 p.m.
\$26 per couple, and open only to Participating and Higher Members
Ages 6-9



Here's your chance to transform the earth. Join June Myles for a globe-making workshop in which you can create a fantasy planet, test your knowledge of world geography, or do something in between.

June will show you how to construct a sphere, and then you can play the role of cartographer and create a world of your own. You can give the earth a single landmass,

like in the days of the dinosaurs, or bestow an extra continent by splitting North America at the Grand Canyon. If you like the continents just the way they are, you can make a globe that depicts the animals unique to each region. The possibilities are endless.

Use the coupon below to register, and note that tickets are available only by mail.

Members' Day Trip to the

Norwalk Maritime Center

Sunday, March 21
9:00 a.m.-5:30 p.m.
\$50, and open only to Participating and Higher Members
Ages 13 and up



Members can take a guided tour of Connecticut's Norwalk Maritime Center, which is home to more than 125 species of maritime life in recreated Long Island Sound habitats. The center is located in a restored nineteenth-century foundry that overlooks an active waterfront filled with tugs and barges, fishing boats, and recreational vessels.

The center's aquarium offers a panorama of habitats and their characteristic maritime life, starting with a coastal salt marsh, progressing through 22 marine environments and concluding with a re-creation of the depths of the open ocean, where huge sharks, stingrays, bluefish, and other creatures swim in a 110,000-gallon tank.

Participants will watch the feeding of sharks and seals, then see the IMAX movie *To Fly* on a curved screen that's eight stories wide and six stories high. They'll also visit the new exhibit *Sharks!*, which features live sharks and rays and numerous hands-on

interactive displays. The exhibit chronicles the survival of sharks since the age of dinosaurs and shows why some species are now threatened with extinction.

Transportation from the Museum to the center will be by bus. Use the coupon below to register, and please note that tickets are available only by mail.

Members' Day Trip to the Norwalk Maritime Center.

Sunday, March 21, 9:00 a.m.-5:30 p.m.

Number of Members' tickets at \$50
(no more than 2, please): _____
Total amount enclosed for program: _____

Name: _____

Address: _____

City: _____ State: _____ Zip: _____

Daytime telephone: _____

Membership category: _____

Please make check payable to the American Museum of Natural History and mail with a **self-addressed, stamped envelope** to: Maritime Center, Membership Office, American Museum of Natural History, Central Park West at 79th Street, New York, NY 10024-5192.

Members' Adult-Child Globe-Making Workshop.

Sunday, March 7. Please indicate a first and second choice of times.

____ 10:30 a.m. ____ 1:00 p.m.
Number of Members' tickets at \$26 (only 1 ticket is necessary per couple; no more than 2, please): _____
Total amount enclosed for program: _____

Name: _____

Address: _____

City: _____ State: _____ Zip: _____

Daytime telephone: _____

Membership category: _____

Please make check payable to the American Museum of Natural History and mail with a **self-addressed, stamped envelope** to: Globes, Membership Office, American Museum of Natural History, Central Park West at 79th Street, New York, NY 10024-5192.

Museum Spotlight Tours



Bears tours on Feb. 9 and March 9

The Volunteer Office has organized free Spotlight Tours of some of the Museum's most intriguing exhibits. The following Spotlight Tours will take place in February and March. For further information call (212) 769-5566.

Pre-Columbian Treasures. The Museum's newest hall, which opened in 1989, features the fascinating art treasures of South America. *Wednesdays, February 3 and March 3, 1:45 p.m.*

Creation of a Diorama. The Museum's timeless and realistic dioramas are among its outstanding features. Come discover how they are made. *Thursdays, February 4 and March 4, 1:45 p.m.*

Endangered Species. Profound environmental changes are making it difficult — and sometimes impossible — for certain animals to survive. Find out which creatures are most vulnerable and why they are in danger of extinction. *Fridays, February 5 and March 5, 6:30 p.m.*

Africa. Learn how animals and people have adapted to Africa's diverse environments in the halls of African Mam-

mals and Peoples. *Saturdays, February 6 and March 6, 1:45 p.m.*

Rain Forests. Although they constitute only 6 percent of the earth's surface, the rain forests are essential to all life on the planet and their destruction will be an irreplaceable loss. *Mondays, February 8 and March 8, 2:45 p.m.*

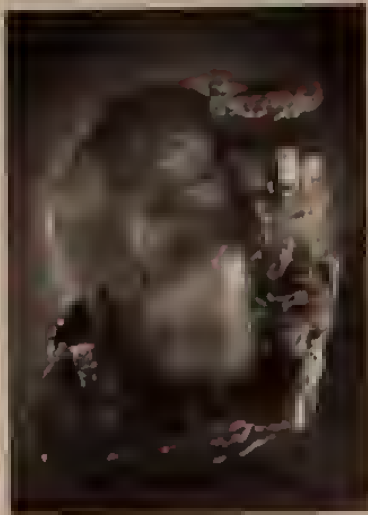
Bears. The temporary exhibition *Bears: Imagination and Reality* will open on June 4. Warm up for the exhibition with the Museum's resident bears. *Tuesdays, February 9 and March 9, 12:45 p.m.*

Minerals and Myths. For millennia people have used and worn minerals as an enhancement to physical and mental well being. Find out the origins of some popular myths about minerals and gems. *Wednesdays, February 10 and March 10, 12:45 p.m.*

Northwest Coast Indians. As social, political, and environmental conditions change, these weavers of wood and carvers of totem poles have adapted and survived. *Tuesdays, February 16 and March 16, 2:45 p.m.*

The Department of Education Presents

Spring 1993 Lecture Series



Gems and Crystals

Frontiers in Brain Science

These three perspectives on new explorations into the human brain take place on Tuesday evenings, starting March 2, from 7:00 to 8:30 p.m. \$27 for Members, \$30 for non-Members.

March 2: *Nature's Mind: Left Brain, Right Brain, and Brain Maps.* Michael Gazzaniga of the Center for Neurobiology at UC Davis will present his findings concerning brain adaptations to environmental challenges.

March 9: *How Did Human Language Evolve?* Steven Pinker of the Department of Brain and Cognitive Sciences at the Massachusetts Institute of Technology challenges the myth that language is a cultural invention.

March 16: *Genes, Molecules, and Mind.* How do we think, feel, and remember? Ira B. Black, professor at the Robert Wood Johnson Medical School, will discuss altering brain functions in response to the environment.

African American Cemetery in New York

Three lectures by urban historian Sherrill Wilson and Jean Howson of the NYC Landmarks Commission will examine the history of New York City's African American community and spotlight new discoveries. The talks will be presented on three Monday evenings, starting February 22, from 7:00 to 8:30 p.m. \$27 for Members, \$30 for non-Members.

The Polar Explorers: Four Giants of the Arctic and Antarctic

Author Kenneth A. Chambers, lecturer in zoology and a scholar of the history of polar exploration, will trace four of the most exciting expeditions in polar history. The lectures will take place on four Thursday evenings, starting March 18, from 7:00 to 8:30 p.m. \$31.50 for Members, \$35 for non-Members.

Gems and Crystals

This four-session series offers a deeper appreciation of the rich history and diversity of one of the world's finest gem collections. Joseph J. Peters, senior scientific assistant in the Department of Mineral Sciences, will present the lectures on four Thursday evenings, starting February 25, 7:00 to 8:30 p.m. \$31.50 for Members, \$35 for non-Members.

An optional tour of the J.P. Morgan Hall of Gems is presented in conjunction with this series; the tour will be on Friday, February 26, from 7:00 to 8:30 p.m. \$15 (no discount for Members).

Culture on Film

This series, hosted by Elaine Charnov, a programmer of the Margaret Mead Film and Video Festival, will explore some of the ways in which filmmakers have represented other cultures. The programs will include special guest filmmakers and scholars and take place on three Tuesday evenings, starting February 23, from 7:00 to 8:30 p.m. \$27 for Members, \$30 for non-Members.

Tiwanaku and New Research on the Origins of Andean States

New findings in Peru, Chile, and Bolivia indicate that the short-lived Inca empire inherited much of its sophisticated statecraft, religion, art, science, and culture from far more ancient societies like the unique Tiwanaku civilization. From its capital at well over 12,000 feet above sea level in Bolivia's altiplano, Tiwanaku dominated much of the southern Andes almost 1,000 years before the arrival of the Inca.

American Museum archaeologist Paul Goldstein presents his own research on Tiwanaku in Peru and Chile in the context of the Museum's 100-year history of field studies of this fascinating and little-known civilization. This series will take place on two Monday evenings, March 1 and 8, from 7:00 to 8:30 p.m. \$21.50 for Members, \$25 for non-Members.

West African Archeology: Invisible Early Cities of the Niger River

Hundreds of massive city mounds and funerary tumuli dot the Niger River's inland flood plain south of the Sahara Desert. Excavations and surveys at the legendary cities of Jenne-jeno and Timbuktu have confirmed the great age and indigenous origin of Middle Niger urbanism. But until the late 1970s, these cities were invisible to archaeologists. Therein lies the tale of how we look for urban civilization in Africa and in parts of the globe as far removed as northern China.

This slide-illustrated lecture is presented by Roderick J. McIntosh, professor of anthropology at Rice University, on Tuesday, February 23, from 7:00 to 8:30 p.m. \$13.50 for Members, \$15 for non-Members.

Other courses include *Wildflowers of the Northeast*, *Animal Drawing*, *Walking Tour of Spring Flowers and Trees in Central Park*, *Weekend for Bird Enthusiasts*, *Weekend Whale Watch off Cape Cod*, *Bird Identification for the Beginner*, and *Field Class in Bird Identification*. Use the coupon below to register, and for further information call (212) 769-5310.

Lecture Series

I enclose a stamped self-addressed envelope together with a check (or money order) payable to the American Museum of Natural History for: \$_____.

Advance registration is requested, but registration will be accepted on the opening night if the course is not filled. Please call in advance: (212) 769-5310.

Course	No. of tickets	Price	Total
Course	No. of tickets	Price	Total
Name:			
Address:			
City:	State:	Zip:	

Daytime telephone: _____
Please make check payable to the American Museum of Natural History and mail with a stamped, self-addressed envelope to: **Lecture Series**, Department of Education, American Museum of Natural History, Central Park West at 79th Street, New York, NY 10024-5192.

Museum Notes

Hours

Exhibition Halls	
Mon.-Thurs. & Sun.	10:00 a.m.-5:45 p.m.
Fri. & Sat.	10:00 a.m.-8:45 p.m.
The Museum Shop	
Mon.-Thurs. & Sun.	10:00 a.m.-5:45 p.m.
Fri. & Sat.	10:00 a.m.-7:45 p.m.
The Junior Shop	
Mon.-Fri.	10:00 a.m.-4:45 p.m.
Sat. & Sun.	10:00 a.m.-5:45 p.m.
The Museum Library	
Tues.-Fri.	11:00 a.m.-4:00 p.m.
Diner Saurus Fast Service Eatery	
Daily	11:00 a.m.-4:45 p.m.
Garden Cafe	
Reservations: (212) 874-3436.	
Lunch: Mon.-Fri.	11:30 a.m.-3:30 p.m.
Dinner: Fri. & Sat.	5:30-7:30 p.m.
Brunch: Sat. & Sun.	11:00 a.m.-4:00 p.m.
Whale's Lair	
Fri.	3:00-8:00 p.m.
Sat.	Noon-8:00 p.m.
Sun. & most holidays	Noon-5:00 p.m.
Snack Carts (at 77th Street & on the first floor of the Roosevelt Memorial Hall)	
Sat. & Sun.	11:00 a.m.-4:00 p.m.
The Discovery Room	
Passes are distributed at the first-floor information desk beginning at 11:45 a.m. Ages 5-10.	
Children must be accompanied by an adult.	
Closed on holidays and weekdays.	
Sat. & Sun.	Noon-4:30 p.m.
The Natural Science Center	
For children of all ages and their families.	
Closed on Mondays and holidays.	
Tues.-Fri.	2:00-4:30 p.m.
Sat. & Sun.	1:00-4:30 p.m.

Entrances

During Museum hours visitors can enter the building through the 77th Street entrance, the parking lot entrance (81st Street), and the Roosevelt Memorial Hall entrance (79th Street and Central Park West). **Visitors attending programs after hours can enter the building through the driveway entrance at 79th Street and Central Park West.**

Naturemax

Tropical Rain Forest tells the story of the 400-million-year evolution of tropical rain forests. Daily showtimes are 10:30 and 11:30 a.m., 12:30, 1:30, 2:30, 3:30, and 4:30 p.m.

On Friday and Saturday evenings, Tropical Rain Forest is shown with The Magic Egg at 6:00 and 7:30 p.m.

Schedules and prices are subject to change without notice. Call (212) 769-5650 for further information.

Admission (Participating and Higher Members):
Adults: \$4 single feature; \$5.50 double feature
Children: \$2 single feature; \$3 double feature

Birthday Parties

Theme parties for young Members 5-10 years old are two hours long and held at 3:30 p.m. on Wednesdays, at 4:00 p.m. on Fridays, and at 11:00 a.m. or 2:30 p.m. on weekends. The group should be no fewer than 10 and no more than 20. The fee is \$275 plus \$15 per child. (The cost includes all materials, juice, ice cream, and favor bags. The cake is not included.) Call (212) 769-5606 for further information.

Parking

The parking lot is located on 81st Street between Central Park West and Columbus Avenue. Space is limited and available on a first-come, first-served basis. Call the Membership Office at (212) 769-5606 for information about alternative parking.

Sun.-Thurs. 9:30 a.m.-9:30 p.m.
Fri. & Sat. 9:30 a.m.-midnight
Cars: \$12; Buses: \$11

Museum Tours

Free Museum Highlights Tours are available to individuals and families. Tours are conducted daily at 10:15 and 11:15 a.m., 1:15, 2:15, and 3:15 p.m. Free Spotlight Tours are also available to individuals and families. Current Spotlight Tour topics appear on page 6.

Happenings at the Hayden

Sky Show

Bold Visions . . . Distant Shores

Long before European explorers reached the Americas these continents saw the rise of amazing civilizations — from North American deserts to Mexican jungles and the Andes. *Bold Visions . . . Distant Shores* explores the sophisticated skylore of the Maya, Aztecs, Inca, and Anasazi and the ways in which this knowledge influenced their daily lives. Through June 28.

Showtimes:

Mon.-Fri. 1:30 and 3:30 p.m.
Sat. 11:00 a.m. (except for Feb. 6), 1:00, 2:00, 3:00, 4:00, and 5:00 p.m.

Sun. 1:00, 2:00, 3:00, 4:00, and 5:00 p.m.

Admission to the Sky Show for Participating and Higher Members is \$4 for adults and \$2 for children. For non-Members' prices and additional information, call (212) 769-5900.

Lectures

On Wednesday, February 10, at 7:30 p.m., Margaret Geller of the Harvard Smithsonian Astrophysical Observatory will present an illustrated talk, "Mapping a Large Scale Structure of the Universe." She'll reveal surprising patterns in the universe that emerge through supercomputer animation as she presents three-dimensional representations of galaxies within a few hundred billion light-years of the Milky Way.

On Wednesday, March 3, at 7:30 p.m., cosmonaut Georgi M. Grechko of the Laboratory for Atmospheric Research in Moscow will present a talk, "The Soviet Space Program: Past, Present, and Future." Grechko will tell of his experiences with the Soviet space program, which began with his work as an engineer at Korolyov's famous design bureau. He was also involved in the unmanned lunar research program, which included Luna-9, the first spacecraft to soft-land on the moon. He'll then offer a personal, behind-the-scenes tour of the formerly top-secret Soviet space program.

These lectures are part of the *Frontiers in Astronomy and Astrophysics* series and will take place in the Sky Theater. Tickets are \$6 for Participating and Higher Members and \$8 for non-Members. Tickets can be purchased at the Planetarium box office on the nights of lectures, beginning at 6:30 p.m., or use the coupon at right to register, and for additional information call (212) 769-5900.

African Skylore

On Tuesday, February 16, at 7:00 p.m., Cheryl Byron and Something Positive will present African storytelling under the Planetarium's starry dome. African sky lore will be told while dancers, musicians, and Planetarium effects enhance the tales.

This program is suitable for adults and children. Tickets are \$8 for Participating and Higher Members and \$10 for non-Members. Use the coupon at right to register, and for additional information call (212) 769-5900.

Courses for Stargazers

The Planetarium offers a variety of courses on basic and advanced astronomy along with classes on meteorology and geology, aviation, and navigation. For further information about the courses call (212) 769-5900.

Children's Shows

Wonderful Sky is a special Sky Show for preschoolers. Children sing along with images of their favorite Sesame Street Muppets as they learn about rainbows, the phases of the moon, sunsets, and stars. Sat., Feb. 6, and Sat., April 3, at 10:30 and 11:45 a.m. Admission for Participating and Higher Members is \$4 for adults and \$2 for children.

Shows usually sell out in advance; reservations, by mail only, are necessary. Make your check payable to the Hayden Planetarium (Attn: Wonderful Sky, Central Park West at 81st Street, New York, NY 10024), indicate membership category and a first and second choice of showtimes, and include a self-addressed, stamped envelope. For additional information, call (212) 769-5900.

Laser Shows

Journey into another dimension where laser visuals and rock music combine to create a dazzling 3-D experience of sight and sound. Shows are presented on Fridays and Saturdays at 7:00, 8:30, and 10:00 p.m. For prices and show schedule, telephone (212) 769-5900.

It's always a good idea to call before visiting the Planetarium, since prices, programs, and showtimes are subject to change without notice. For general Planetarium information, call (212) 769-5920.

Lecture: "Mapping a Large Scale Structure of the Universe." Wednesday, February 10, 7:30 p.m.

Number of Members' tickets at \$6: _____
Number of non-Members' tickets at \$8: _____
Total amount enclosed for program: _____

African Storytelling. Tuesday, February 16, 7:00 p.m.

Number of Members' tickets at \$8: _____
Number of non-Members' tickets at \$10: _____
Total amount enclosed for program: _____

Lecture: "The Soviet Space Program: Past, Present, and Future." Wednesday, March 3, 7:30 p.m.

Number of Members' tickets at \$6: _____
Number of non-Members' tickets at \$8: _____
Total amount enclosed for program: _____

Name: _____

Address: _____

City: _____ State: _____ Zip: _____

Daytime telephone: _____

Please make check payable to the Hayden Planetarium and mail with a **self-addressed, stamped envelope** to: Lecture, Hayden Planetarium, Central Park West at 81st Street, New York, NY 10024-5192

Please note that ticket orders are subject to availability and cannot be processed without telephone number and stamped, self-addressed envelope. **Do not include ticket requests or checks for American Museum programs.**

Sun

Mon

Tue

Wed

Thu

Fri

Sat

Mailing List

From time to time we make our Member list available to carefully screened companies whose products or services may be of interest to you. If you don't want to receive any promotional mail other than the Museum's, please send your mailing label from *Natural History* with a request to delete your name to:

Membership Office
No Promotional Mail
American Museum of Natural History
79th Street at Central Park West
New York, NY 10024-5192

Please be assured we will take prompt action.

2 5:30-7:30 p.m. *Reading and Interpreting Topographic Maps and Making Topographic Models.* Members' workshop, part 1. \$40, and open only to Participating and Higher Members. Tickets required. Page 2.

3 4:00-5:30 p.m. *Origami for Kids.* Members' workshop, part 1. \$40, and open only to Participating and Higher Members. Tickets required. Page 2.

4

5

6 9:00 a.m.-5:00 p.m. *Ice Fishing.* \$60, and open only to Participating and Higher Members. Tickets required. Page 2.

3:00 p.m. *This Island Earth.*

Members' classic science-fiction film series Kaufmann Theater. \$4 for Members, \$7 for non-Members. Page 2.

9 5:30-7:30 p.m. *Reading and Interpreting Topographic Maps and Making Topographic Models.*

Members' workshop, part 2. \$40, and open only to Participating and Higher Members. Tickets required. Page 2.

10 4:00-5:30 p.m. *Origami for Kids.* Members' workshop, part 2. Tickets required. Page 2.



12

13

The Museum receives substantial support from a number of major sources. We are particularly grateful to the City of New York, which owns the Museum buildings and provides funds for their operation and maintenance, and to the New York State Council on the Arts, National Science Foundation, National Endowment for the Arts, National Endowment for the Humanities, Institute for Museum Services, 300 corporations, 100 private foundations, 520,000 members, and numerous individual contributors.

14 2:00 p.m. NY Shell Club. Room 319. Free.

15 Presidents Day. The Museum is open.

16 7:00 p.m. *African Skylore.* Planetarium Sky Theater. \$8 for Members, \$10 for non-Members. Page 7.

17 4:00-5:30 p.m. *Origami for Kids.* Members' workshop, part 3. Tickets required. Page 2.

18 10:30 a.m. and 1:00 p.m. *Members' Tours of the Pierpont Morgan Library.* \$10, and open only to Participating and Higher Members. Tickets required. Page 2. **SOLD OUT**

19

20 11:30 a.m. and 1:30 p.m. *The World of Animals.* Members' family program. Kaufmann Theater. \$5 for Members, \$8 for non-Members. Page 5.

21 10:30 a.m. NY Turtle and Tortoise Society. Room 319. Free.

2:00 p.m. NY Paleontological Society. Room 319. Free.

22

23 7:30 p.m. Linnaean Society. Linder Theater. Free.

24

25 7:00 p.m. *The 1992 Rio Roosevelt Expedition.* Members' evening program. Kaufmann Theater. \$7 for Members, \$10 for non-Members. Page 4.

26

27

New and Improved

A variety of renovations are under way at the Museum. We are giving a new look to our dinosaurs and creating an up-to-date exhibition hall illustrating human evolution.

While these renovations are taking place access to some exhibition halls will be restricted. The halls of Earth History, Late and Early Mammals, and Late and Early Dinosaurs are closed until further notice. Previews of the renovated

fossil halls on the fourth floor are on display in Gallery 77. *Work in Progress: From Drawingboard to Dinosaurs* features dinosaur bones and other specimens, along with models, plans, and drawings of the new halls now under construction. Dinosaur devotees should be sure to stop by the Roosevelt Memorial Hall on the second floor for a look at the *Borosaurus*, the world's tallest freestanding dinosaur exhibit.

The recently renovated Museum Library houses one of the world's greatest natural history research collections. The new facility features state-of-the-art environmental controls and compact storage to ensure the preservation of collections and an expanded reference area and reading room for staff and visitors. The library is located on the fourth floor and open to the public Tuesday through Friday, 11:00 a.m. to 4:00 p.m.



February 1993
American
Museum of
Natural History

POTUNDA

For Participating and Higher Members of the American Museum of Natural History

Vol. 18, No. 6 June 1993



The stately Triceratops, a North American native, weighed up to six tons. Its massive head constituted one third of its length and afforded this vegetarian a formidable defense.

Photo TM © Universal City Studios & Amstar



Velociraptor, the "swift plunderer," sported a large sickle claw on the second toe of each foot. Specimens of this animal were discovered by the Museum's Central Asiatic Expeditions of the 1920s.

The Dinosaurs of Jurassic Park

Exhibition opens on Friday, June 11

Cinematic magic meets scientific reality in the new exhibition *The Dinosaurs of Jurassic Park*, which arrives in Gallery 3 this month. Models of the dinosaurs that appear in Steven Spielberg's blockbuster movie will be on display at the Museum all summer.

The exhibition, which is jointly presented by the American Museum and the Dinosaur Society, was created by Research Casting International of Toronto and features specimens from the Museum's extensive fossil collec-

tions. *The Dinosaurs of Jurassic Park* will compare the speculative elements of the movie, which was based on Michael Crichton's best-seller, with what is really known about dinosaur physiology and behavior. For example, *Jurassic Park*'s fictional dinosaurs were cloned from the DNA of an insect fossilized in amber. This insect had fed on a live dinosaur millennia ago. The exhibition will feature samples of insect-bearing amber and DNA from the Museum's

molecular lab.

On Friday, June 11, the day the exhibition opens, Members can attend a special program to learn more about the fact-based and fictionalized aspects of *Jurassic Park*. James Clark, who is a Frick Postdoctoral Fellow in the Department of Vertebrate Paleontology and a member of the Mongolian-American Museum expedition to the dinosaur beds of the Gobi Desert, will discuss the extent to which the story is just a story. The program will

take place at 7:00 p.m. in the Kaufmann Theater. Tickets are \$7 and available only to Members; use the June Members' programs coupon on page 3 to register.

Please note that due to the extraordinary expense of assembling and maintaining this exhibition, there will be an admission charge to Gallery 3. General admission is \$5 for adults, \$2.50 for children, and \$3 for senior citizens. Members' admission is \$4 for adults and \$2 for children.

Remembering the Little Bighorn



1908 photograph of the Little Bighorn by E. S. Curtis

Friday, June 25, will mark the 117th anniversary of Custer's "last stand" at Little Bighorn. On that day Paul Stekler will present a Members' program that will explore how this particular event became an enduring historical icon.

Stekler will balance the more common perspective of whites with the seldom heard but equally compelling view of

the native people of the Northern Plains. At the conclusion of the lecture, he'll show his film, *Last Stand at Little Bighorn*, which is 53 minutes long.

The program will take place at 7:00 p.m. in the Kaufmann Theater. Tickets are \$8 for Members and \$12 for non-Members. Use the coupon on page 3 to register for the program.

Bears: Imagination and Reality

Exhibition opens Friday, June 4, in Gallery 77

The popular images of bears — in myth, art, literature, and history — from prehistoric times to the present are contrasted with the reality of bears in nature in the new exhibition *Bears: Imagination and Reality*. In addition to fanciful depictions of the animal, including a variety of interpretations of "Goldilocks and the Three Bears," the exhibition portrays the bear as scientists and researchers know it. *Bears: Imagination and Reality* was produced by the Science Museum of Minnesota.

Members' Preview Thursday, June 3

Members can see the new exhibition before it opens to the public and attend a program on bear ecology. Volunteer Highlights Tour guides will be on hand in the gallery from 4:00 to 7:00 p.m. to point out exhibition highlights and answer questions.

The preview is free and open only to Participating and Higher Members. Your valid membership card will admit you and a guest to Gallery 77.

Afterward naturalist Andrew Simmons will present *Bear Facts*, a special Members' program that will guest-star a live black bear cub. Simmons, an expert at handling wild animals, will explain why some bears are threatened or endangered and discuss their adaptations for survival.

The program will take place at 7:30 p.m. in the Kaufmann Theater. Tickets are \$5; use the June Members' programs coupon on page 3 to register.

A Saturday with the Bears

Saturday, June 12
8:00 a.m.–2:00 p.m.

On Saturday, June 12, a variety of exhibition-related events will be offered. Choose some or all of the following activities, and use the coupon on page 3 to order tickets.

Breakfast with the Bears

Come to the Garden Cafe, located on the Museum's lower level, and start your day with the bears by having a hearty breakfast. The menu features granola with berries and nuts, croissants, brioche, and toast, served with butter, honey, and jam; scrambled eggs with smoked salmon; fruit garnish; and juice, coffee, and milk. Breakfast will be served from 8:00 to 9:00 a.m., and the price of \$12.75 per person includes tax and gratuity.

Exhibition Tours

These family tours of the exhibition will take place before the Museum opens to the general public. The tours, which last about 20 minutes, leave from the entrance to Gallery 77 at 8:40, 9:00, 9:20, and 9:40 a.m. No tickets are necessary for the tours, which are free and open only to Participating and Higher Members on a first-come, first-served basis upon presentation of a valid membership card.

A Movie, Workshop, and Bear Hunt

Real bears Bart and Douce are the stars of *The Bear*, an internationally acclaimed hit about two bears—a giant kodiak and an orphan cub—struggling to survive in the wilderness. The 1988 film was directed by Jean-Jacques



Annaud and is 93 minutes long. It will be shown from 10:30 a.m. to noon in the Linder Theater.

Tickets are available only to Participating and Higher Members ages 5 and older. In addition to the movie, the \$15 fee includes a bear crafts workshop, in which participants can create a folk art item with a bear motif to take home (drop in any time between noon and 2:00 p.m.), and a self-guided bear hunt, in which participants will receive a packet of bear facts that includes puzzles, games, and clues to a treasure hunt around the Museum to locate bears and bear artifacts. Hunters will receive a bear prize.

In addition, some items from the Museum's collections will be on display and Jean Augustin, senior technician in the Department of Mammalogy, will be on hand to discuss the specimens' significance.

Members' Guided Bear Hunt Friday, June 18 SOLD OUT

Volunteer Highlights Tour guides will show Members not only the guest bears of the new exhibition but also some of the Museum's resident bears. The tours will take place at 4:00 and 7:00 p.m. and are geared toward adults. Tickets, which are available only by mail, are free and limited to Participating and Higher Members.

Alien

The Members' classic science-fiction film series concludes this month with a screening of *Alien*, Ridley Scott's 1979 outer space thriller. "In space no one can hear you scream," warned the movie's ads, and Members are cautioned that the film's exceptionally realistic special effects might be disturbing to impressionable minds.

Alien, which is 124 min-

utes long, will be shown on Saturday, June 5, at 3:00 p.m. in the Kaufmann Theater. Before the movie starts, Brian Sullivan, the Hayden Planetarium's production designer, will offer a 30-minute slide show pointing out the special effects and other features that make the film a classic. Tickets are \$4 for Members and \$7 for non-Members; use the coupon on page 3 to register.

Rediscovering Stone Age Tools

Members can see how the tools used by Paleolithic peoples and contemporary Aborigines and Indians are made at a lecture and demonstration. Anthropologist John Alexander of the Department of Vertebrate Paleontology, who has been making tools for almost 20 years, will discuss the ways in which these tools were manufactured by hunter-gatherers and demon-

strate the technique of flint-knapping, an ancient practice that was rediscovered by sixteenth-century gunsmiths.

The program will take place on Wednesday, June 9, from 5:30 to 7:30 p.m. Tickets are \$35 and available only to Participating and Higher Members. Call the Membership Office at (212) 769-5606 for information about ticket availability.

ROTUNDA

ISSN 0194-6110

Vol. 18, No. 6
June 1993

Donna Bell — Editor
Sheila Greenberg — Manager of Membership Services
Angela Soccodato — Designer
Rita Campon — Copy Editor
Evelyn Robbins — Proofreader
Peter Zelaya — Fulfillment Coordinator

Rotunda, a publication for Participating and Higher Members of the American Museum of Natural History, is published monthly September through June, bimonthly July and August. Publication offices are at *Natural History* magazine, American Museum of Natural History, Central Park West at 79th Street, New York, NY 10024-5192. Telephone: (212) 769-5606. Subscriptions: \$50 a year for Participating Membership; \$100 a year for Contributor Membership. © 1993 American Museum of Natural History. Second-class postage paid at New York, NY. Postmaster: Please send address changes to: *Rotunda*, Membership Office, American Museum of Natural History, Central Park West at 79th Street, New York, NY 10024-5192.

Printed by Waldon Press, Inc. New York

Members' Workshop

Deciphering the Human Skeleton

Wednesday, July 14
4:30-6:30 p.m.
\$40, and open only to Participating and Higher Members
Ages 18 and up

When only the bones remain, how much information about an individual can be reconstructed? Jeffrey Schwartz, professor of anthropology at the University of Pittsburgh and research associate in anthropology at the American Museum, will present an introductory workshop that examines the analyses and limits of forensic anthropology.

The workshop will begin by focusing on human variation and the degree to which an osteologist might find elements of skeletal anatomy significant in reconstructing an evolutionary history. Schwartz will discuss the features that are strictly anatomical "noise" and those that correspond to the criteria osteologists use to determine the sex of an individual. Participants will test the stereotypes of gender based on European material and see how consistently skeletal morphology can be termed male or female. They'll also observe how certain aspects of aging and disease can alter parts of the skeleton from "male" to "female."

Deciphering the Human Skeleton. Wednesday, July 14, 4:30-6:30 p.m. \$40, and open only to Participating and Higher Members. Ages 18 and up.

Number of Members' tickets at \$40
(no more than 2, please):
Total amount enclosed for program:

Name:
Address:
City: State: Zip:
Daytime telephone:
Membership category:

Please make check payable to the American Museum of Natural History and mail with a **self-addressed, stamped envelope** to: *Deciphering*, Membership Office, American Museum of Natural History, Central Park West at 79th Street, New York, NY 10024-5192.

The second half of the workshop will be specimen oriented. A geographically diverse sample of skeletal material will be available for a firsthand study of how much information can be extracted

from the bones. Enrollment is limited, and a reading list will be provided upon registration. Use the coupon above to register, and please note that tickets are available only by mail.

Operation Berkshire

Tuesday, July 27
7:00 p.m.
Kaufmann Theater
Free for Members,
\$8 for non-Members

A cooperative covert law enforcement effort, *Operation Berkshire* was enacted to curtail the illegal commercial sale of protected species of fish and wildlife. Members can hear about the operation, which uncovered a large criminal network trafficking in illegal venison and — of all things — gallbladders from black bears.

Colonel Wayne Brewer will discuss the undercover operation, a three-year project that's considered the largest and most successful operation of its kind ever conducted in the Northeast.

The assistant director of law enforcement for the New York State Department of Environmental Conservation, Brewer will discuss the operation's dangers for the undercover officers, the lucrative market for bear gallbladders, and the international scope of the traffic in illegal fish and wildlife. He'll also discuss the use of wildlife remedies in Asian cultures.

Use the June Members' programs coupon at right to register for the program.

Fantasy Dinosaurs of the Movies

Tuesday, July 20
7:00 p.m.
Kaufmann Theater
\$9 for Members, \$12 for non-Members

Prehistoric animals have appeared in motion pictures since the early 1900s, when the medium itself was still primitive. The Members' program *Fantasy Dinosaurs of the Movies* is a retrospective of prehistoric animals on film that includes elements of film history and special-effects techniques. Some rarities will be featured among the clips from numerous motion pictures, including such early silent classics as *Gertie the Dinosaur* and *The Dinosaur and the Missing Link*. Excerpts from more familiar films like *One Million BC*, *King Kong*, *Gorgo*, *Godzilla vs. the Smog Monster*, and *Baby, Secret of the Lost Legend*, will be shown. The hour-long lecture will be followed by a question-and-answer session.

Donald F. Glut — aka "Dinosaur Don" — will host *Fantasy Dinosaurs of the Movies*, which is presented in conjunction with the *Jurassic Park* exhibition. Glut is the author of several books, including *The Complete Dinosaur Dictionary* and the



forthcoming *The Dinosaur Society Dinosaur Encyclopedia* (coauthored by Don Lessem). He has acted as creative consultant for the television specials *Dinosaurs* and *More Dinosaurs* and for a video produced by the Smithsonian Institution and has been involved in preparing exhibits at museums around the country.

Use the June Members' programs coupon at right to register.

June Members' Programs Coupon

Name: _____

Address: _____

City: _____ State: _____ Zip: _____

Daytime telephone: _____

Membership category: _____

Total amount enclosed: _____

Please make check (if applicable) payable to the American Museum of Natural History and mail with a **self-addressed, stamped envelope** to: *June Members' Programs*, Membership Office, American Museum of Natural History, Central Park West at 79th Street, New York, NY 10024-5192. **Telephone reservations are not accepted. No refunds or exchanges.**

Unless otherwise indicated, no more than eight tickets may be ordered for a program. Participating Members are entitled to four tickets per program at the Members' price, Higher Members are entitled to six tickets, and Associate Members are entitled to one ticket.

Bear Facts. Thursday, June 3, 7:30 p.m.
Number of Members' tickets at \$5: _____
Total amount enclosed for program: _____

Alien. Saturday, June 5, 3:00 p.m.
Number of Members' tickets at \$4: _____
Number of additional tickets at \$7: _____
Total amount enclosed: _____

The Science Behind Jurassic Park
Friday, June 11, 7:00 p.m.
Number of Members' tickets at \$7: _____
Total amount enclosed: _____

Remembering the Little Bighorn
Friday, June 25, 7:00 p.m.
Number of Members' tickets at \$8: _____
Number of additional tickets at \$12: _____
Total amount enclosed: _____

Fantasy Dinosaurs of the Movies
Tuesday, July 20, 7:00 p.m.
Number of Members' tickets at \$9: _____
Number of additional tickets at \$12: _____
Total amount enclosed for program: _____

Operation Berkshire. Tuesday, July 27, 7:00 p.m.
Number of free Members' tickets
(no more than 2, please): _____
Number of additional Members' tickets at \$5: _____
Number of non-Members' tickets at \$8: _____
Total amount enclosed for program: _____

Saturday with the Bears
Saturday, June 12 (see the feature on page 2).

Number of Members' tickets for breakfast,
movie, workshop, and bear hunt at
\$27.75 each: _____
Number of Members' tickets for breakfast only
at \$12.75 each: _____
Number of Members' tickets for movie, work-
shop, and bear hunt at \$15 each: _____
Total amount enclosed for program: _____

Name: _____

Address: _____

City: _____ State: _____ Zip: _____

Daytime telephone: _____

Membership category: _____

Please make check payable to the American Museum of Natural History and mail with a **self-addressed, stamped envelope** to: *Saturday with the Bears*, Membership Office, American Museum of Natural History, Central Park West at 79th Street, New York, NY 10024-5192.

Members' Walking Tours

Historian Peter Laskowich will walk with Members around some of New York's landmark buildings and point out vestiges of the city's past. Tickets for these tours are \$15 and available only to Participating and Higher Members ages 18 and up. Use the coupon below to register, and please note that tickets are available only by mail.

Grand Central Terminal and Park Avenue Tuesday, June 22 2:30-4:00 p.m. SOLD OUT

When the original Grand Central Terminal was proposed in the 1860s, the tabloids scornfully suggested an alternative name — End of the World. It's hard to believe now, but America's premier thoroughfare was once a tortuous stretch of wooded ravines and rocky hills.

In addition to exploring the roles of Grand Central and Park Avenue in the creation of present-day New York, this walking tour will examine the remaining splendor of the grand design — in the subtle genius of the Grand Central viaduct and in the hidden nature of Park Avenue itself.

The Revolution and the New Nation in New York Wednesday, July 7 5:30-7:00 p.m.

New York was an occupied city during the Revolution — the British seized control in the summer of 1776 and remained for seven years, destroying one-third of the city during their stay.

The Hudson River was the colonies' indispensable waterway, and its control was the objective of early British plans of division and conquest. The river's defense is a dramatic tale of wealthy people who forsook their holdings for a cause, desperate souls who fought in the shadow of the gallows, and ingenious minds who devised a sort of submarine and stretched a great unbroken chain across the Hudson.

Manhattan retains visible remnants of the revolutionary era. Participants in this walking tour will observe evidence of patriotic fervor at Bowling Green, learn about specific Iroquois contributions to the Constitution, and hear of a victory so stunning that the band at Yorktown played "The World Turned Upside-Down."

Chelsea: The New York of a Century Ago Tuesday, August 17 3:00-4:30 p.m.

Although it bears little resemblance to its eighteenth-century estate form, Chelsea has resisted change more successfully than most other city neighborhoods. Its coal chutes, horse-walks, and bootscrapers bear witness to a bygone age. The Chelsea Hotel is an acknowledged landmark and the General Theological Seminary a hidden one.

Participants on the walking tour will feel how the area's long streets make Chelsea's blocks the polar opposite of Broadway. They'll see how the stoop expressed a class's conspicuous consumption, and they'll discover in the streets of this enclave the way of life of a generation long past.

Summer Workshops for Kids

Monday, August 9-Friday, August 13
Ages 7-9



Children will learn the bear facts on August 12

Between the *Jurassic Park* dinosaurs in Gallery 3 and a bevy of bears in Gallery 77, the Museum will be an especially exciting habitat this summer. Young Members can join June Myles for a fun-filled week that includes mid-week workshops at which kids will bring bag lunches and picnic outdoors in between their immersion in dinosaurs, birds, or bears.

Tickets are \$15 per workshop for the half-day programs on Monday and Friday and \$30 for the midweek activities. The workshops are open only to Participating and Higher Members, and enrollment in each workshop is limited to 20 participants. Use the coupon below to register, and please note that tickets are available only by mail.

Know Your Noses Monday, August 9 10:30 a.m.-noon

Participants will rove the Museum to seek creatures with oversized noses. They'll learn how these animals use their jumbo proboscises and create really "nosey" masks.

Jurassic Park, NYC Tuesday, August 10 10:30 a.m.-2:30 p.m.

Steven Spielberg's dinosaurs are in town, and after viewing these Hollywood celebrities kids will make some dinosaur models to fit their own scripts. They'll also see some authentic dinosaur fossils and make some take-home fossils. Both meat-eaters and plant-eaters should bring lunch.

Bird Stats Wednesday, August 11 10:30 a.m.-2:30 p.m.

Children will survey the

Museum's displays of our feathered friends — the fargest, the fastest, and the great swimmers (yes, birds can swim) — and then honor these flying stars by making a bird mobile. Weather permitting, they'll share their lunch with the birds in Central Park and play a game or two while observing the antics of our local birds. If it rains, they'll see a Naturemax presentation of *Antarctica*; if not, they'll visit the Central Park Zoo. Also, each child will build a simple birdhouse to take home and rent out to a nearby feathered family.

Bears Thursday, August 12 10:30 a.m.-2:30 p.m.

Like many other Plains Indians, Crazy Horse admired the strength of bears, and he carried a shield emblazoned with a bear symbol. Participants can look at Crazy Horse's shield and other Na-

tive American bear images featured in the exhibition *Bears: Imagination and Reality*. They'll see the differences between fairy-tale bears (like Goldilocks' hosts) and natural-born bears, and depending on the weather, they'll either visit the Central Park Zoo or view the Naturemax film *Antarctica*. Kids will also make their own bear hats, which will ensure their status as "top bears" at home for the rest of the summer.

Leaf Literacy Friday, August 13 10:30 a.m.-noon

Explore the forest community and the trees inside and outside the Museum. Kids will look at some of the creatures hidden by the leaves and how their lives depend on the trees. Each child will make a "leaf sampler" of trees commonly found in Central Park that can be a guide to tree ID on subsequent park visits.

Members' Walking Tours. \$15 per tour, and open only to Participating and Higher Members. Ages 18 and up. Please indicate number of tickets per tour.

____ *Revolution in New York*, Wednesday, July 7

____ *Chelsea*, Tuesday, August 17

Number of Members' tickets at \$15

(no more than 2 per tour, please): _____

Total amount enclosed for program: _____

Name: _____

Address: _____

City: _____ State: _____ Zip: _____

Daytime telephone: _____

Membership category: _____

Please make check payable to the American Museum of Natural History and mail with a **self-addressed, stamped envelope** to: Walking Tours, Membership Office, American Museum of Natural History, Central Park West at 79th Street, New York, NY 10024-5192.

Summer Workshops for Kids

Know Your Noses, Mon. Aug. 9

No. of tickets at \$15: _____

Jurassic Park, NYC, Tues., Aug. 10

No. of tickets at \$30: _____

Bird Stats, Wed., Aug. 11

No. of tickets at \$30: _____

Bears, Thurs., Aug. 12: No. of tickets at \$30: _____

Leaf Literacy, Fri., Aug. 13: No. of tickets at \$15: _____

Total amount enclosed: _____

Name: _____

Address: _____

City: _____ State: _____ Zip: _____

Daytime telephone: _____

Membership category: _____

Please make check payable to the American Museum of Natural History and mail with a **self-addressed, stamped envelope** to: Summer Workshops, Membership Office, American Museum of Natural History, Central Park West at 79th Street, New York, NY 10024-5192.

Members' Day Trip to

Kensico Dam and Reservoir

Thursday, July 15
9:00 a.m.-5:00 p.m.
\$50, and open only to Participating and Higher Members
Ages 18 and up

Sidney Horenstein, the Museum's coordinator of environmental public programs, will host a trip to Kensico Dam and Reservoir, a vital component of the city's water-supply system. Members will have an opportunity to admire the dam's structure and architectural beauty. Participants will take a look

at the dam's intake chambers and chlorinating plant, and they'll visit the water-testing lab to see how New York City's supply is monitored to ensure the high quality of its potable water. Horenstein will discuss the ecology of reservoirs and explain Kensico's importance in the structure of the water-supply system

The dam is located in central Westchester, near Valhalla. Transportation will be by bus from the Museum, and participants should be sure to wear comfortable clothes and bring a bag lunch. Use the coupon at right to register, and please note that tickets are available only by mail.

Members' Day Trip to Kensico Dam and Reservoir. Thursday, July 15, 9:00 a.m.-5:00 p.m. \$50, and open only to Participating and Higher Members. Ages 18 and up.

Number of Members' tickets at \$50
(no more than 2, please):
Total amount enclosed for program:

Name:

Address:

City: State: Zip:

Daytime telephone:

Membership category:

Please make check payable to the American Museum of Natural History and mail with a self-addressed, stamped envelope to: Kensico, Membership Office, American Museum of Natural History, Central Park West at 79th Street, New York, NY 10024-5192.

How Water Works

Tour of NYC's Water Supply and Pollution Control Systems

Thursday, July 8
9:00 a.m.-5:00 p.m.
\$50, and open only to Participating and Higher Members
Ages 18 and up

Members can observe a paragon of modern-day engineering on a tour of the New York City water supply system. The much-vaunted system provides the best-quality municipal water in the world, and participants can observe some of the workings of the current system and the city's planned improvements for the future. Participants will

also see how the city treats its waste water and storm flow. The trip will begin with an extensive tour of the Ward's Island Pollution Control Plant. From there Members will travel to the Bronx for a tour of the Jerome Park Reservoir and Pilot Filtration Plant. The tours will view part of the Third Water Tunnel in the Bronx, where Members will

descend more than 200 feet below Van Cortlandt Park to observe the internal water works. The trip will conclude at Hillview Reservoir.

Representatives from the Department of Environmental Protection will be on hand at all of the sites to explain aspects of the system, and Sidney Horenstein, the Museum's coordinator of environmental public programs, will lead the tours.

Tickets are \$50 each. The fees for this program are for transportation and educational presentations only; there is no admission charge for tours of the sites. No food will be available on the tours, so be sure to bring a bag lunch and beverages. Use the coupon at right to register, and please note that tickets are available only by mail.

How Water Works: Members' Tour of the NYC Water Supply and Pollution Control Systems Thursday, July 8, 9:00 a.m.-5:00 p.m. \$50, and open only to Participating and Higher Members. Ages 18 and up.

Number of Members' tickets at \$50
(no more than 2, please):
Total amount enclosed for program:

Name:

Address:

City: State: Zip:

Daytime telephone:

Membership category:

Please make check payable to the American Museum of Natural History and mail with a self-addressed, stamped envelope to: Water Works, Membership Office, American Museum of Natural History, Central Park West at 79th Street, New York, NY 10024-5192.

Members' Whale Watch

Come aboard an Okeanos Ocean Research Foundation vessel to watch for whales and seabirds, sharks, turtles, and a variety of fishes. A naturalist will explain the range of whales and other sea creatures that may be encountered, and volunteers will be available throughout the cruise to answer questions.

The whale watch will take place on Thursday, July 29, from 7:00 a.m. to 8:00 p.m. Members will travel by bus from the Museum to Montauk, where they'll cruise for 4½ hours. Tickets are \$75 and available only to Participating and Higher Members ages 13 and older. Use the coupon below to register, and please note that tickets are available only by mail.

Members' Whale Watch. Thursday, July 29, 7:00 a.m.-8:00 p.m. \$75, and open only to Participating and Higher Members. Ages 13 and up.

Number of Members' tickets at \$75:
Total amount enclosed for program:

Name:

Address:

City: State: Zip:

Daytime telephone:

Membership category:

Please make check payable to the American Museum of Natural History and mail with a self-addressed, stamped envelope to: Whale Watch, Membership Office, American Museum of Natural History, Central Park West at 79th Street, New York, NY 10024-5192.

Clearwater Sail

Thursday, July 22
1:00-4:00 p.m.
\$36, and open only to Participating and Higher Members
Ages 8 and up

Come aboard the "classroom of the waves" to help hoist the sails and learn about Hudson River ecology. The Clearwater vessels are replicas of the vessels that linked the riverfront communities during the eighteenth and nineteenth centuries.

The crew will discuss the Hudson's ecology and the problems arising when ecological relationships are ignored. They'll show how the environment might be made cleaner, healthier, and more productive, and they'll illustrate life within the river with the sloop's nets and other equipment.

Sailors must be at least 8 years old; children under that age will not be permitted aboard. Be sure your clothes are warm and casual (soft-soled, flat-heeled shoes are advised). This cruise is an environmental excursion, not a learn-how-to-sail trip. Because of the limited enrollment, participants are

confined to four tickets per request. Tickets are available only by mail order; use the coupon below to register

Clearwater Sail. Thursday, July 22, 1:00-4:00 p.m. \$36, and open only to Participating and Higher Members. Ages 8 and up.

Number of Members' tickets at \$36
(no more than 4, please):
Total amount enclosed for program:

Name:

Address:

City: State: Zip:

Daytime telephone:

Membership category:

Please make check payable to the American Museum of Natural History and mail with a self-addressed, stamped envelope to: Clearwater, Membership Office, American Museum of Natural History, Central Park West at 79th Street, New York, NY 10024-5192.

Why Me?

A program for the hearing impaired

Saturday, June 12
2:00 and 4:00 p.m.

PROGRAM CANCELLED

Playwright Bara Caseley Swain returns to the Museum for the premiere of *Why Me?*, a portrayal of courage in the face of personal conflict. An engaging one-act play, the program will be signed as well as spoken. *Why Me?* is presented by Panacea Productions.

This free program will take

place in the Kaufmann Theater. There are no tickets or reservations; seating is limited and available on a first-come, first-served basis.

This program is made possible by a gift to the Education Department from the Vidda Foundation. For information call (212) 769-5186.

A Call to Teach

Each year thousands of schoolchildren visit the Museum. We need you as a teaching volunteer to answer their questions and add to their sense of wonder about the world. Teaching volunteers work with classes on schoolday mornings. Previous teaching experience is not required; we will train you. The next teaching volunteer training program starts this fall.

Call the Museum's Volunteer Office at (212) 769-5566 for an application.

John Burroughs Book Awards

Naturalist Vincent G. Dethier was awarded the 1993 John Burroughs Medal Award for Nature Writing for his book *Crickets and Katydid*, *Concerts and Solas* (Harvard University Press, 1992).

The annual award is presented to the finest natural history book published in the previous three years — a work combining scientific accuracy, firsthand fieldwork, and literary skill. *Crickets and Katydid*, *Concerts and Solas* is a story of the musicianship of courting crickets, katydids, and grasshoppers during the summer of 1938.

Dethier is the Gilbert L. Woodside Professor of Zoology at the University of Massachusetts at Amherst. His other books include *Ecology of a Summer House*, *To Know a Fly*, *Fairweather Duck*, *The Ant Heap*, *Man's Plague*, and *World of the Tentmakers*.

1992 John Burroughs List of Nature Books for Young Readers
The Young Readers' List

was established in 1988 to recognize John Burroughs' efforts to inspire young naturalists. His nature essays for children were published a century ago in special school editions and caused nature study to blossom in classrooms all over America.

The books selected for the list feature perceptive and artistic accounts of direct experiences in the world of nature. The list seeks to encourage writers, artists, and publishers to produce books that invite young readers to explore nature.

Came Back, Salmon. Molly Cone, Sierra Club Books for Children.

Elephants Calling. Katharine Payne, Crown Publishers, Inc.

John Muir, Wilderness Protector. Ginger Wadsworth, Lerner Publications Co.

Nature Spy. Shelley Rotner and Ken Kreisler, Macmillan.

Orphan: The Story of a Baby Woodchuck. Faith McNulty, Scholastic Inc.

The Night of the Whip-poorwill. Nancy Larrick, Philomel Books.

The Call of the Running Tide: A Portrait of an Island Family. Nancy Price Graff, Little, Brown, and Co.

Workshops and Field Trips

The Department of Education presents the following programs. For further information call (212) 769-5310.

Marbling: An Ancient Paper Craft

On Saturday, June 5, an all-day workshop will offer instruction in the production of marbled paper. Participants will use a variety of techniques to produce about ten sheets of marbled paper each. The workshop will take place from 11:00 a.m. to 6:00 p.m. The fee is \$65 (no discount for Members). Materials are included and enrollment is limited to 20 adults.

Travel Photography in Pennsylvania

A photographic field trip explores and captures on film the charm of New Hope, Pennsylvania, and the scenic surroundings of Bucks County. Professional photographer Willa Zakin leads the tour, working with participants individually and in groups. The trip will take place on Saturday, June 5, from 9:00 a.m. to 6:30 p.m. The fee is \$75 (no discount for Members), and enrollment is limited to 25 adults.

Geology Boat Cruises

A Geology Cruise Around Manhattan

On Tuesday, June 1, from 6:00 to 9:00 p.m., a three-hour boat trip around Man-

hattan surveys regional geology. Fees are \$22 for Members and \$25 for non-Members. Adults only.

The Nooks and Crannies of Western New York Harbor

A unique opportunity to learn about the formation of metropolitan New York's bays and other waterways awaits participants on Tuesday, June 8, from 6:00 to 9:00 p.m. Fees are \$22 for Members and \$25 for non-Members. Adults only.

Exploring the Brooklyn Shoreline

On Saturday, June 5, from 11:00 a.m. to 4:00 p.m., a cruise along the Brooklyn shore spotlights local history and geology. Fees are \$32 for Members and \$35 for non-Members. Adults only.

Leonhardt People Center

1:00-4:30 p.m.

June 5 and 6

Shinjin. Dawn Saito uses Butoh, a contemporary Japanese dance style, to celebrate *shinjin*, a Buddhist term expressing realization of the Buddha mind.

Anti-Asian Violence: A Rising Trend. The Committee Against Anti-Asian Violence (CAAUV) discusses the historical antecedents to anti-Asian violence and explains their attempts to resolve such problems through community empowerment.

Godzilla's "The Curia Shop". Nina Kuo, a member of the arts organization Godzilla, shows slides from the exhibit "The Curia Shop," which challenges the limited ways in which Asian-Americans are viewed by other cultures.

June 12 and 13

America Is in the Heart. Kabayan Players present

highlights from *America Is in the Heart*, a play adapted from Carlos Bulosan's novel of the same title that depicts the experiences of Filipino migrant workers in the 1930s.

Asian-American Studies. John Ko and Kelly Nishimura talk about Asian-American studies as part of a growing multicultural awareness.

Roots to Reality. Corky Lee, who has documented and photographed the experiences of the Asian-American community for 20 years, explains his attempts to rectify forgotten and omitted elements.

June 19 and 20

The People Center is closed for Father's Day weekend.

June 26 and 27

Rainbow of Sound. Members of Mamma Tongue per-

form music derived from Western harmonies, West African rhythms, and Sioux melodies.

Warrior Women Wizards. Robin Holder shows slides of her artwork to explain the relevance of female empowerment and living in harmony with nature.

No tickets are necessary for these free programs. Seating is limited and on a first-come, first-served basis. For further information and a brochure, call (212) 769-5315.

These Education Department programs are made possible in part by grants from the Chase Manhattan Bank, Citibank, and gifts from the Samuel and May Rudin Foundation, the Henry Nias Foundation, Vidda Foundation, and the family of Frederick H. Leonhardt.

Contact: Cultural Change, Alternative Perspectives

The final segment of the Education Department's year-long series in observation of the Columbian Quincentennial looks at contemporary themes and issues facing indigenous peoples. For further information and a brochure, call (212) 769-5315.

American Indians: European Contact and the Doctrine of Discovery Sunday, June 6

Tonya Gonnella Frichner, Esq., discusses the political and social ramifications of the legalities used to justify 500 years of conquest and domination, including the Doctrine of Discovery and Manifest Destiny. She will also discuss the influences of native cultures on European society. Frichner is a member of the Onondaga Nation, Snipe Clan of the Haudenosaunee, and president of the American Indian Law Alliance. 2:00 p.m., Kaufmann Theater.

Contemporary Japanese Dance Sunday, June 13

Saeko Ichinohe and Company present a program in which a new work and a juxtapositioning of traditional and contemporary movements illustrate the changing culture of contemporary Japan. In addition to performances by Ichinohe, the program features dancers Yukie Okuyama and Jeff Moen. 2:00 and 4:00 p.m., Kaufmann Theater.

Family Across the Sea Tuesday, June 15

This film traces how scholars have uncovered the connection between the Gullah people of South Carolina and citizens of Sierra Leone. *Family Across the Sea* shows how African-Americans kept their ties with their homeland over centuries of oppression through their speech, songs, and customs. Produced by South Carolina Educational Television (56 min., 1991). 7:00 p.m., Kaufmann Theater.

A Question of Color Tuesday, June 22

The first documentary to confront "color consciousness" in the black community, *A Question of Color* explores the devastating effects of a caste system based on conformity to European ideals of skin color, hair texture, and facial features. Produced and directed by Kathe Sandler (58 min., 1992). Mamadou Chinyelu, an expert on African cultural practices and values in the Western Hemisphere, will offer commentary on both films. 7:00 p.m., Kaufmann Theater.

Tribute to our Ancestors Sunday, June 27

CINQUE Folkloric Dance Theater performs the music and dance of West Africa, Cuba, Brazil, Haiti, Puerto Rico, and the United States. The company's dancers, acrobats, mimes, and musicians hail from many countries of the African diaspora. 2:00 p.m. and 4:00 p.m., Kaufmann Theater.

Saltwater Fly Fishing

Friends of Fishes is sponsoring a family cookout on the beach at which participants can fish, learn to fish, seine, or just sit back and relax. Bring waders, boots, bathing suits, towels, snorkels, fishing gear, and a hearty appetite for the gourmet cookout with wine, beer, soft drinks, and pastries.

The cookout will take place on Sunday, June 13, from 4:00 to 9:00 p.m. at Sherwood Island Park in Westport, Connecticut. Anglers will be guided by Paul Dixon of Orvis, New York, Michael Noyes and John Picicelli of the Sportsman's Den of Green-

wich. Peter Bodo of the New York Times, Jerry Wolland, president of NYC Trout Unlimited, and members of the Salty Flyroders. Curators from the Department of Ichthyology will be on hand to help seine and identify fishes.

For fishing information call Paul Dixon at Orvis New York at (212) 697-3133, and Michael Noyes or John Picicelli at the Sportsman's Den at (203) 869-3234. For registration information, call Friends of Fishes at (212) 289-360S or fax (212) 360-662S. Tickets, which are \$60 for adults and \$30 for children under 12, may be ordered by mail; make your check payable to Friends of Fishes/AMNH, and mail it with a stamped, self-addressed



envelope to: Friends of Fishes, Department of Ichthyology, American Museum of Natural History, Central Park West at 79th Street, New York, NY 10024-S192. Please specify date, number of tickets, and daytime and evening telephone numbers.

Museum Notes

Hours	
Exhibition Halls	
Mon.-Thurs. & Sun.	10:00 a.m.-5:45 p.m.
Fri. & Sat.	10:00 a.m.-8:45 p.m.
The Museum Shop	
Mon.-Thurs. & Sun.	10:00 a.m.-5:45 p.m.
Fri. & Sat.	10:00 a.m.-7:45 p.m.
The Junior Shop	
Mon.-Fri.	10:00 a.m.-4:45 p.m.
Sat. & Sun.	10:00 a.m.-5:45 p.m.
The Museum Library	
Tues.-Fri.	11:00 a.m.-4:00 p.m.
Diner Saurus Fast Service Eatery	
Daily	11:00 a.m.-4:45 p.m.
Garden Cafe	
Reservations: (212) 769-5865	
Lunch: Mon.-Fri.	11:30 a.m.-3:30 p.m.
Dinner: Fri. & Sat.	5:30-7:30 p.m.
Brunch: Sat. & Sun.	11:00 a.m.-4:00 p.m.
Whale's Lair	
Fri.	3:00-8:00 p.m.
Sat.	Noon-8:00 p.m.
Sun. & most holidays	Noon-5:00 p.m.
Snack Carts (at 77th Street & on the first floor of the Roosevelt Memorial Hall)	
Sat. & Sun.	11:00 a.m.-4:00 p.m.

The Discovery Room

Passes are distributed at the first-floor information desk beginning at 11:45 a.m. Ages 5-10. Children must be accompanied by an adult. Closed on holidays and weekdays.

Sat. & Sun.	Noon-4:30 p.m.
The Natural Science Center	
For children of all ages and their families.	
Closed on Mondays and holidays.	
Tues.-Fri.	2:00-4:30 p.m.
Sat. & Sun.	1:00-4:30 p.m.

Entrances

During Museum hours visitors can enter the building through the 77th Street entrance, the parking lot entrance (81st Street), or the Roosevelt Memorial Hall entrance (79th Street and Central Park West). **Visitors attending programs after hours can enter the building through the driveway entrance at 79th Street and Central Park West.**

Naturemax

The Naturemax Theater presents Antarctica, a thrilling exploration of the highest, driest, coldest, and most mysterious continent on earth. Showtimes for Antarctica are 10:30 and 11:30 a.m., 1:30 and 3:30 p.m. daily. Tropical Rain Forest, which portrays the 400-million-year evolution of these vanishing resources, is shown at

12:30, 2:30, and 4:30 p.m.

On Friday and Saturday at 6:00 and 7:30 p.m. Antarctica is shown on a double bill with Tropical Rain Forest. The Museum offers a dinner/theater package that includes admission, double feature, and dinner in the Garden Cafe. For reservations call (212) 769-5350.

Schedules and prices are subject to change without notice. Call (212) 769-5650 for further information.

Admission (Participating and Higher Members). Adults: \$4 single feature; \$5.50 double feature. Children: \$2 single feature; \$3 double feature.

Parking

The Museum's parking lot is located on 81st Street between Central Park West and Columbus Avenue. Space is limited and available on a first-come, first-served basis; fees are \$12 for cars and \$11 for buses. The lot is open from 9:30 a.m. to 9:30 p.m. on Sunday through Thursday and from 9:30 a.m. to midnight on Friday and Saturday.

Hertz Manhattan, located one block away from the Museum at 210 West 77th Street (between Broadway and Amsterdam), offers parking discounts to Members — on Monday through Friday Members receive a \$2 discount off regular prices and on Saturday and Sunday Members receive a \$3 discount.

Call the Membership Office at (212) 769-5606 for information about alternative parking.

Happenings at the Hayden

Special for Families

On Saturday, June 12, 19, and 26, at 11:00 a.m., the Planetarium will present *Teddy's Quest*, a new Sky Show for children ages 3 to 10. All kids are encouraged to bring their teddy bears—admission for the bear is free.

Teddy's Quest, which is presented in conjunction with the Museum exhibition *Bears: Imagination and Reality* (see page 2), tells the story of a teddy bear who was born in space and sets out on a quest to find a friend. As Teddy travels through space, he learns many things, including how stars are formed, how to identify constellations, and what it's like on the moon.

Tickets for Participating and Higher Members are \$4 for adults and \$2 for children. Use the coupon at right to order tickets, and for non-Members' prices and additional information, call (212) 769-S900.

Sky Show

Bold Visions . . . Distant Shores

Long before European explorers reached the Americas these continents saw the rise of amazing civilizations — from North American deserts to Mexican jungles and the Andes. *Bold Visions . . . Distant Shores* explores the sophisticated skylore of the Maya, Aztecs, Inca, and Anasazi and the ways in which this knowledge influenced their daily lives. Through June 28.

Showtimes:
Mon.-Fri. 1:30 and 3:30 p.m.
Sat. 11:00 a.m. (except for June 5),
1:00, 2:00, 3:00, 4:00, and 5:00 p.m.

Sun. 1:00, 2:00, 3:00, 4:00, and 5:00 p.m.
Admission to the Sky Show for Participating and Higher Members is \$4 for adults and \$2 for children. For non-Members' prices and additional information, call (212) 769-5900.

Children's Shows

Wonderful Sky is a special Sky Show for preschoolers. Children sing along with images of their favorite Sesame Street Muppets as they learn about rainbows, the phases of the moon, sunsets, and stars. Sat., June 5, at 10:30 and 11:45 a.m., and Sat., July 10, at 10:30 a.m. Admission for Participating and Higher Members is \$4 for adults and \$2 for children.

Shows usually sell out in advance; reservations, by mail only, are necessary. Make your check payable to the Hayden Planetarium (Attn: Wonderful Sky, Central Park West at 81st Street, New York, NY 10024), indicate membership category and a first and second choice of showtimes, and include a self-addressed, stamped envelope and your daytime phone number. For additional information, call (212) 769-S900.

Robots in Space features Lucasfilm's R2D2 and C-3PO and has been created especially for children ages 7 to 12. Together with a live host, these famous space robots take children on a tour of the universe. See how satellites and probes — the real space robots — help us learn about worlds near and far. Journey from the earth to other planets and distant black holes. Sat., July 10, at 11:45 a.m. Admission for Participating and Higher Members is \$4 for adults and \$2 for children. For additional information, call (212) 769-S900.

Laser Shows

Journey into another dimension where laser visuals and rock music combine to create a dazzling 3-D experience of sight and sound. Shows are presented on Fridays and Saturdays at 7:00, 8:30, and 10:00 p.m. For prices and show schedule, telephone (212) 769-S900.

Donate canned foods during the month of June and receive a 10 percent discount in the Planetarium gift shop. All food will be donated to the Children's Aid Society.

It's always a good idea to call before visiting the Planetarium, since prices, programs, and showtimes are subject to change without notice. For general Planetarium information, call (212) 769-5920 or (212) 769-5100.

Teddy's Quest. Members can purchase up to 4 tickets at the Members' price. Please indicate a first and second choice.

Sat., June 12, 11:00 a.m. _____

Sat., June 19, 11:00 a.m. _____

Sat., June 26, 11:00 a.m. _____

Number of adult Members' tickets at \$4: _____

Number of Members' children's tickets at \$2: _____

Number of non-Members' adult tickets

at \$5: _____

Number of non-Members' children's tickets

at \$2.50: _____

Total amount enclosed: _____

Name: _____

Address: _____

City: _____ State: _____ Zip: _____

Daytime telephone: _____

Please make check payable to the Hayden Planetarium and mail with a **self-addressed, stamped envelope** to: *Teddy's Quest*, Hayden Planetarium, Central Park West at 81st Street, New York, NY 10024-5192.

Please note that ticket orders are subject to availability and cannot be processed without telephone number and stamped, self-addressed envelope. **Do not include ticket requests or checks for American Museum programs.**

Sun Mon Tue Wed Thu Fri Sat

June 1993

American Museum of Natural History

The Museum receives substantial support from a number of major sources. We are particularly grateful to the City of New York, which owns the Museum buildings and provides funds for their operation and maintenance, and to the New York State Council on the Arts, National Science Foundation, National Endowment for the Arts, National Endowment for the Humanities, Institute for Museum Services, 300 corporations, 100 private foundations, 520,000 members, and numerous individual contributors.

1 2

3 4:00-7:00 p.m. Members' preview of Bears: *Imagination and Reality*. Free, and open only to Participating and Higher Members. Page 2.
7:30 p.m. *Bear Facts*. Members' evening program. Kaufmann Theater. Page 2.

4 Bears: *Imagination and Reality* opens in Gallery 77. Page 2.

5 11:00 a.m. NY Map Society. Free. Room 319
1:00-4:30 p.m. Leonhardt People Center events. Free. Page 6.
3:00 p.m. *Alien*. Members' classic science-fiction film series. Kaufmann Theater. \$4 for Members. \$7 for non-Members. Page 2.

6 1:00-4:30 p.m. Leonhardt People Center events. Free.

2:00 p.m. *American Indians: European Contact and the Doctrine of Discovery*. Kaufmann Theater. Free. Page 6.

7

8 5:30-8:30 p.m. NY Harbor Sunset Cruise. Sponsored by Friends of Fishes. \$100 per person. Call (212) 289-3605 for ticket availability.

9 5:30-7:30 p.m. *Red's Tools: A discussion and demonstration of flint-knapping techniques*. \$35, and open only to Participating and Higher Members. Tickets required. Page 2.

10

11 *The Dinosaurs of Jurassic Park* opens in Gallery 3. Page 1.
7:00 p.m. *The Science Behind Jurassic Park*. Members' evening program. Kaufmann Theater. \$7, and open only to Participating and Higher Members. Page 1.

12 8:00 a.m.-2:00 p.m. Members' Saturday with the Bears. Page 2.
1:00-4:30 p.m. Leonhardt People Center events. Free. Page 6

13 1:00-4:30 p.m. Leonhardt People Center events. Free. Page 6.
2:00 p.m. NY Shell Club. Free. Room 319.
2:00 and 4:00 p.m. *Contemporary Japanese Dance*. Kaufmann Theater. Free. Page 6.
4:00-9:00 p.m. *Saltwater Fly Fishing*. Page 7.

14

15 7:00 p.m. *Family Across the Sea*. Kaufmann Theater. Free. Page 6.
7:30 p.m. *Limaeen Society*. Blum Lecture Room. Free.



20 Father's Day.

21

22 1:00 p.m. *The Earth as a Peppercorn*. Sign language tour. For information, call (212) 769-5566 (TTY users: 1-800-662-1220 relay).
2:30-4:00 p.m. *Members' Walking Tour of Grand Central Terminal and Park Avenue*. **SOLD OUT**
7:00 p.m. *A Question of Color*. Free. Page 6.

27 1:00-4:30 p.m. Leonhardt People Center events. Free. Page 6.
2:00 and 4:00 p.m. *Tribute to Our Ancestors*. Kaufmann Theater. Free. Page 6.

28

29

30



How sweet it is.

Enjoy one of our fabulous desserts, for free, with every entrance.

- Choose from our -
Hot Belgian Waffle and Vanilla Ice Cream with Dark Chocolate Sauce
Ipecan Tart with Bourbon Whipped Cream and Caramel Sauce
Creme Brulee
Chocolate Mousse
Or Daily Special Selections prepared by our Pastry Chef

- Free Dessert -
During the month of June, present this coupon for a free dessert with every purchase of an entrée at the Garden Cafe.
Limit: four desserts per coupon. Offer expires June 30, 1993.



18 4:00 and 7:00 p.m. Members' *Guided Bear Hunt*. Free, and open only to Participating and Higher Members. Tickets required. Page 2. **SOLD OUT**

19

25 7:00 p.m. *Remembering the Little Bighorn*. Members' evening program. Kaufmann Theater. \$8 for Members, \$12 for non-Members. Page 2.

26 1:45 p.m. Sign language tour of *Bears: Imagination and Reality*. Free. For further information, call the Volunteer Office at (212) 769-5566 (TTY users: 1-800-662-1220 relay).
1:00-4:30 p.m. Leonhardt People Center events. Free. Page 6.

Join Members of the Department of Ichthyology on a Collecting Expedition to Gran Canaria

The Department of Ichthyology is organizing special research trips to the Canary Islands to collect fish and expand an artificial reef. The trip is open to divers and nondivers; divers will assist in expanding the reef by photographing fish, and collecting samples for the Museum's collection, and nondivers will collect tidepool fishes and set fish traps for collecting other marine species. All participants will go deep-sea fishing.

To receive information about this trip and others sponsored by the Department of Ichthyology, write to: Friends of Fishes/ AMNH, Department of Ichthyology, American Museum of Natural History, Central Park West at 79th Street, New York, NY 10024-5192. For further information call (212) 289-3605 or fax (212) 360-6625.

ROTUNDA

Vol. 18, No. 7 July/August 1993

For Participating and Higher Members of the American Museum of Natural History



Orion Rendezvous. . . A Star Trek® Voyage of Discovery

Climb aboard the starship *Antares* for a cosmic journey. Actor LeVar Burton — alias Lieutenant Commander Geordi La Forge of *Star Trek: The Next Generation*® — narrates a thrilling new Sky Show that premieres on July 9 at the Hayden Planetarium.

Enter the twenty-fourth century and journey to a place where six suns blaze in the sky, then voyage to a sun 100 million times bigger than our

own. Explore where stars are born and the galactic graveyard of a star that died in one of the most powerful explosions in the universe. Space enthusiasts and *Star Trek*® fans alike will know that they have gone where no planetarium audience has gone before.

This Sky Show is presented in conjunction with a *Star Trek*® Retrospective at the Planetarium. Starfleet

uniforms, *Enterprise* models, alien costumes, and assorted props and photos from Paramount's original 1960s television series will be on display. This exhibition was curated by the National Air and Space Museum and explores the historical, political, social, and cultural issues and themes that were incorporated into the weekly series.

Showtimes for the Sky Show are

1:30 and 3:30 p.m. on Monday through Friday and 1:00, 2:00, 3:00, and 4:00 p.m. on Saturday and Sunday. Admission to the Sky Show for Participating and Higher Members is \$6 for adults and \$3.50 for children. Prices are subject to change without notification. For additional information about *Orion Rendezvous* and the *Star Trek*® Retrospective, call (212) 769-5100

Summer Workshops for Kids

Young Members can join June Myles for a fun-filled week of workshops that will take place from Monday, August 9, through Friday, August 13. Tickets for the programs, which are geared toward children between the ages of 7 and 9, are \$15 for the Monday and Friday activities and \$30 for the mid-week events. The workshops are open only to Participating and Higher Members, and enrollment is limited to 10 participants. Use the coupon on page 5 to register, and please note that tickets are available only by mail.

Know Your Noses. Kids rove the Museum to seek creatures with oversized noses, learn how these animals use their jumbo proboscises, and create really "nosey" masks. **Monday, August 9, 10:30 a.m.-noon.** **Jurassic Park, NYC.** After viewing Gallery 3's guest dinosaurs from Hollywood, participants will make some dinosaur models, see some authentic dinosaur fossils, and create some take-home fossils. **Tuesday, August 10 (sold out), and Thursday, August 19, 10:30 a.m.-2:30 p.m.**

Birds Stats. Children will survey the Museum's displays of our feathered friends, make a bird mobile, and build a simple birdhouse. **Wednesday, August 11, 10:30 a.m.-2:30 p.m.**

Bears. Participants will explore the special exhibition *Bears* and make their own bear hats. **Thursday, August 12, 10:30 a.m.-2:30 p.m.**

Leaf Literacy. Kids explore the forest community and the trees inside and outside the Museum and make a "leaf sampler." **Friday, August 13, 10:30 a.m.-noon.**

Fantasy Dinosaurs of the Movies

A retrospective of prehistoric animals on film, *Fantasy Dinosaurs of the Movies* features clips from numerous motion pictures, including the early silent film *Gertie the Dinosaur* and other classics such as *One Million BC*, *King Kong*, *Gorgo*, and *Godzilla vs. the Smog Monster*. Host Donald Glut will

offer commentary on the clips and discuss film history and special-effects techniques.

The program will take place on Tuesday, July 20, at 7:00 p.m. in the Kaufmann Theater. Tickets are \$9 for Members and \$12 for non-Members; use the July/August Members' programs coupon on page 3 to register.

Members' Walking Tours

Historian Peter Laskowich will walk with Members around some of New York's landmark buildings and point out vestiges of the city's past.

On Wednesday, July 7, from 5:30 to 7:00 p.m. (sold out) and 3:00 to 4:30 p.m., *The Revolution and the New Na-*

tion in New York will observe some of Manhattan's remnants of the British occupation during the revolutionary era.

Chelsea: The New York of a Century Ago, on Tuesday, August 17, from 3:00 to 4:30 p.m. (sold out) and 5:30 to 7:00 p.m., looks at the area's

coal chutes, horse-walks, bootscrapers, and other relics of a bygone age.

Tickets for these tours are \$15 and available only to Participating and Higher Members ages 18 and up. Use the coupon on page 3 to register.

How Water Works

Tour of NYC's Water Supply and Pollution Control Systems

On Thursday, July 8, from 9:00 a.m. to 5:00 p.m., Members will tour the New York City water supply system. They'll visit the Ward's Island Pollution Control Plant and the Jerome Park Reservoir and Pilot Filtration Plant. They'll see part of the Third Water Tunnel in the Bronx, and they'll descend more than

200 feet below Van Cortlandt Park to observe the internal water works. The trip will conclude at Hillview Reservoir.

Representatives from the Department of Environmental Protection will be on hand at all of the sites to explain aspects of the system, and Sidney Horenstein, the

Museum's coordinator of environmental public programs, will lead the tours from start to finish.

Tickets are \$50 and available only to Participating and Higher Members ages 18 and up. Call the Membership Office at (212) 769-5606 for information about ticket availability.

Deciphering the Human Skeleton

The analyses and limits of forensic anthropology are the focus of the Members' workshop *Deciphering the Human Skeleton*. Jeffrey Schwartz, professor of anthropology at the University of Pittsburgh and research associate in anthropology at

the American Museum, will discuss the extent to which information about an individual can be reconstructed when only the bones remain.

The workshop will take place on Wednesday, July 14, from 4:30 to 6:30 p.m. Tickets are \$40 and available only

to Participating and Higher Members ages 18 and up. Call the Membership Office at (212) 769-5606 for information about ticket availability. Enrollment in this workshop is limited, and a reading list will be provided upon registration.

Members' Day Trip to Kensico Dam and Reservoir

Sidney Horenstein, the Museum's coordinator of environmental public programs, will host a trip to Kensico Dam and Reservoir, where Members will learn about the ecology of reservoirs and Kensico's importance in the structure of the

water supply system. Participants will take a look at the dam's intake chambers and chlorinating plant, and they'll visit the water-testing lab to see how New York City's supply is monitored to ensure the high quality of its potable water.

The trip will take place on Thursday, July 15, from 9:00 a.m. to 5:00 p.m. Tickets are \$50 and available only to Participating and Higher Members ages 18 and up. Call the Membership Office at (212) 769-5606 for information about ticket availability.

Clearwater Sail

Help hoist the sails on a replica of a vessel that linked communities on the Hudson River during the eighteenth and nineteenth centuries.

The crew will discuss the Hudson's ecology and the problems arising when ecological relationships are ignored. They'll show how the environment might be made cleaner, healthier, and more productive, and they'll illustrate life within the river with the vessel's nets and other equipment.

Sail dates are Thursday, July 22, and Wednesday, August 25, from 1:00 to

4:00 p.m. Tickets are \$36 and available only to Participating and Higher Members. Sailors must be at least 8 years old; children under that age will not be permitted aboard. Be sure your clothes are warm and casual (soft-soled, flat-heeled shoes are advised). This cruise is an environmental excursion, not a learn-how-to-sail trip. Because of the limited enrollment, participants are confined to four tickets per request.

Tickets are available only by mail order; use the coupon on page 5 to register.

Members' Whale Watch

Come aboard an Okeanos Ocean Research Foundation vessel to watch for whales and seabirds, sharks, turtles, and a variety of fishes. A naturalist will explain the range of whales and other sea creatures that may be encountered, and volunteers will be available throughout the cruise to answer questions.

The whale watch will take

place on Thursday, July 29, from 7:00 a.m. to 8:00 p.m. Members will travel by bus from the Museum to Montauk, where they'll cruise for 4½ hours. Tickets are \$75 and available only to Participating and Higher Members ages 13 and older. Call the Membership Office at (212) 769-5606 for information about ticket availability.

ROTUNDA

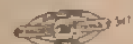
ISSN 0194-6110

Vol. 18, No. 7
July/August 1993

Donna Bell — Editor
Sheila Greenberg — Manager of Membership Services
Angela Soccodato — Designer
Rita Campon — Copy Editor
Evelyn Robbins — Proofreader
Peter Zelaya — Fulfillment Coordinator

Rotunda, a publication for Participating and Higher Members of the American Museum of Natural History, is published monthly September through June, bimonthly July and August. Publication offices are at *Natural History* magazine, American Museum of Natural History, Central Park West at 79th Street, New York, NY 10024-5192. Telephone: (212) 769-5606. Subscriptions: \$50 a year for Participating Membership, \$100 a year for Contributor Membership. © 1993 American Museum of Natural History. Second-class postage paid at New York, NY. Postmaster: Please send address changes to: *Rotunda*, Membership Office, American Museum of Natural History, Central Park West at 79th Street, New York, NY 10024-5192.

Printed by Waldon Press, Inc. New York



Operation Berkshire

Tuesday, July 27
7:00 p.m.
Kaufmann Theater
Free for Members,
\$8 for non-Members

A cooperative covert law enforcement effort, *Operation Berkshire* was enacted to curtail the illegal commercial sale of protected species of fish and wildlife. Members can hear about the operation, which uncovered a large criminal network trafficking in illegal venison and — of all things — gallbladders from black bears.

Colonel Wayne Brewer will discuss the undercover operation, a three-year project that's considered the largest and most successful operation of its kind ever conducted in the Northeast.



Evidence seized during Operation Berkshire

The assistant director of law enforcement for the New York State Department of Environmental Conservation, Brewer will describe the operation's dangers for the undercover officers, the lucrative market for bear gallbladders,

and the international scope of the traffic in illegal fish and wildlife. He'll also discuss the use of wildlife remedies in Asian cultures.

Use the July/August Members' programs coupon to register for the program.

Stanford White's New York

Wednesday, September 8
7:00 p.m.
Kaufmann Theater
\$6 for Members, \$10 for non-Members

The work of architect and designer Stanford White (1853–1906) represents the peak of Beaux-Arts elegance in the New York of the late nineteenth century. The architect's life and career ended with his scandalous murder by millionaire Harry Thaw, who was deranged by his passion for Gibson Girl Evelyn Nesbit. White passed into popular legend when E. L. Doctorow adapted his story in the novel

Ragtime; the fatal triangle was also portrayed in the film *The Girl in the Red Velvet Swing*.

Architectural historian David Garrard Lowe will examine the influences, developments, and impact of White's masterpieces. Surviving examples include the Washington Square Arch; the second Madison Square Garden; the Metropolitan, Colony, and Players clubs;

the great mansions of Vanderbilt, Whitney, and Pulitzer; and scores of other edifices.

After the program, Lowe will sign copies of his book *Stanford White's New York* (Doubleday), which will be available for purchase. Use the coupon at right to register for the program.

Lowe will also lead a walking tour that looks at White's architectural wonders (see the related article below).

Members' Walking Tour

Beaux-Arts Buildings of New York

Discover some of the surviving vestiges of New York City's Beaux-Arts beauties on a walking tour that will spotlight the work of architect Stanford White. Historian David Garrard Lowe, who will present the Members' program *Stanford White's New York* (see the related feature above), will lead the tour.

Participants will meet at the Washington Square Arch and explore the Greenwich Village area, visiting White's birthplace, Judson Church, and buildings by White on Broadway.

Tours will take place on Sunday, September 12, at 11:00 a.m. and 1:00 p.m. Tickets are \$15 each and available only to Participating and Higher Members ages 16 and up. Use the coupon at right to register, and please note that tickets are available only by mail.

Beaux-Arts Buildings of New York. Sunday, September 12. \$15, and open only to Participating and Higher Members. Please indicate a first and second choice.
____ 11:00 a.m. ____ 1:00 p.m.

Number of tickets at \$15 (no more than 2, please) ____
Total amount enclosed: ____

Name: _____

Address: _____

City: _____ State: _____ Zip: _____

Daytime telephone: _____

Membership category: _____

Please make check payable to the American Museum of Natural History and mail with a **self-addressed, stamped envelope** to: *Beaux-Arts Buildings*, Membership Office, American Museum of Natural History, Central Park West at 79th Street, New York, NY 10024-5192

July/August Members' Programs Coupon

Name: _____

Address: _____

City: _____ State: _____ Zip: _____

Daytime telephone: _____

Membership category: _____

Total amount enclosed: _____

Please make check (if applicable) payable to the American Museum of Natural History and mail with a **self-addressed, stamped envelope** to: *July/August Members' Programs*, Membership Office, American Museum of Natural History, Central Park West at 79th Street, New York, NY 10024-5192. **Telephone reservations are not accepted. No refunds or exchanges.**

Unless otherwise indicated, no more than eight tickets may be ordered for a program. Participating Members are entitled to four tickets per program at the Members' price, Higher Members are entitled to six tickets, and Associate Members are entitled to one ticket.

The Revolution in NY

Wednesday, July 7, 3:00 p.m.

Number of Members' tickets at \$15

(no more than 2, please): ____

Total amount enclosed for program: ____

Fantasy Dinosaurs of the Movies

Tuesday, July 20, 7:00 p.m.

Number of Members' tickets at \$9: ____

Number of additional tickets at \$12: ____

Total amount enclosed for program: ____

Operation Berkshire. Tuesday, July 27, 7:00 p.m.

Number of free Members' tickets

(no more than 2, please): ____

Number of additional Members' tickets at \$5: ____

Number of non-Members' tickets at \$8: ____

Total amount enclosed for program: ____

Chelsea. Tuesday, August 17, 5:30 p.m.

Number of Members' tickets at \$15

(no more than 2, please): ____

Total amount enclosed for program: ____

Morocco. Wednesday, August 18, 8:00 p.m.

Number of Members' tickets at \$7: ____

Number of additional tickets at \$10: ____

Total amount enclosed for program: ____

Woman of Power. Thursday, August 26, 7:00 p.m.

Number of free Members' tickets

(no more than 2, please): ____

Number of additional Members' tickets at \$5: ____

Number of non-Members' tickets at \$8: ____

Total amount enclosed for program: ____

Biosphere. Wednesday, September 1, 7:00 p.m.

Number of Members' tickets at \$8: ____

Number of additional tickets at \$12: ____

Total amount enclosed for program: ____

Stanford White's New York

Wednesday, September 8, 7:00 p.m.

Number of Members' tickets at \$6: ____

Number of additional tickets at \$10: ____

Total amount enclosed for program: ____

NOTE: Orders received less than ten days before show dates will be held for pick-up at the door on the day of the program if tickets are still available. If an event is sold out, you will be advised in writing or by phone and your check will be returned. Babies in arms or strollers will not be admitted to programs.

Biosphere 2: The Human Experiment

Wednesday, September 1
7:00 p.m.
Kaufmann Theater
\$8 for Members, \$12 for non-Members



Biosphere 2, the largest self-sustaining ecosystem ever constructed by humans

There's a Garden of Eden in the middle of the Arizona desert — three acres that encompass a rain forest, a miniature ocean with a coral reef, a marsh, and 3,800 plant and animal species, all enclosed within a huge glass dome. Biosphere 2 is the largest self-sustaining ecosystem ever constructed by humans. For the past two years eight scientists and engineers have been sealed inside the biosphere while they study its

"microhabitats." They've recycled their wastes and the ecosystems' natural resources in the hope of discovering better ways to manage the resources of Biosphere 1 — the earth itself.

John Allen, the vice president of Biospheric Development for Space Biospheres Ventures, will present the Members' program *Biosphere 2: The Human Experiment*. Allen has been involved with the project

since its inception in 1984, and his presentation will cover the history of biospheric design, current and future research projects at Biosphere 2, and implications for the future. The program will be illustrated with slides and augmented by a brief video showing recent views of the ecosystems inside Biosphere 2.

Use the July/August Members' programs coupon on page 3 to register.

Women's Equality Day Observance

Woman of Power

Thursday, August 26
7:00 p.m.
Kaufmann Theater
Free for Members, \$8 for non-Members

A day in the life of a Cherokee Nation leader is the focus of the documentary *Chief Wilma P. Mankiller: Woman of Power*. The first woman among the nation's 21 democratically elected chiefs, Mankiller heads a tribe of 113,000 — the largest group of Cherokee in rural Oklahoma. She oversees the nation's government, educational, medical, and judicial systems and is responsible for the first "self-government

project," which balances Cherokee culture with the modern world.

The half-hour video spotlights Mankiller's groundbreaking work in governance and community development in modern tribal life. "I would like most to be remembered," Mankiller says, "as someone who helped our people enter the twenty-first century on our own terms."

The program will be hosted by filmmaker Mary Scott,

who is an editor, lecturer, and successful lobbyist for women's issues. She has won awards for her direction and production of this documentary as well as for music and news videos. After the film, Scott will discuss the making of the documentary and answer questions from the audience.

Use the July/August Members' programs coupon on page 3 to register for the program.

Morocco and the Casbah Dance Experience

Wednesday, August 18
8:00 p.m.
Kaufmann Theater
\$7 for Members, \$10 for non-Members

The oldest continuing classical folk dance on earth, Raks Sharki, is among the entrancing numbers to be performed at a Members' evening of Middle Eastern and North African dance. Morocco and the Casbah Dance Experience will present a fascinating array of ethnic dance forms, ranging from demonstrations of balance and dexterity — such as those of the Moroccan Tea Tray Dance and Raks el As-saya, an Egyptian women's cane dance — to the mystical dance called Guedra, a trance dance of benediction and betrothal that originated with the so-called Blue People of the Sahara.

The Casbah Dance Experience is under the direction of its founder, Morocco, who is a leading performer and authority in her field. Her performing career includes appearances around the world, and she has spent more than 30 years trying to find, recover, preserve, and present the vanishing dance forms of the Middle East and North Africa. Morocco's extensive research is reflected by the troupe's repertoire, and the Casbah Dance Experience is celebrated for the authenticity of its performances as well as its joyous entertainment.

Use the coupon on page 3 to register.



The Dinosaurs of Jurassic Park

The reptilian stars of Steven Spielberg's blockbuster movie *Jurassic Park* are currently on display in Gallery 3. Models of the dinosaurs that appear in the film, along with actual fossils of these creatures, are featured in the exhibition, which is jointly presented by the American Museum and the Dinosaur Society and was created by Research Casting International of Toronto.

Please note that due to the extraordinary expense of assembling and maintaining this exhibition, there will be an admission charge to Gallery 3. General admission is \$5 for adults and \$2.50 for children, and \$3 for senior citizens; Members' admission is \$4 for adults, \$2 for children. The Dinosaurs of Jurassic Park will be on display through September 12.

Members' Trip to Block Island

Friday, September 10–Saturday, September 11

Savor one of the last weekends of summer with a getaway to one of the Nature Conservancy's "last great places." A trip to the resourceful, independent farming and fishing community of Block Island will take visitors back to a simpler time. The spectacularly beautiful and secluded region has escaped the scourge of development (thanks to its residents' foresight, sacrifice, and hard work), and the island remains the unspoiled treasure it was a century ago.

Naturalists from the Okeanos Institute will accom-

pany Members on a natural history tour of the island that promises some exciting moments of birdwatching (Block Island lies along the flyway of many migratory species). Other tour highlights include the Maze — several miles of carefully cut paths that meander through pine forests and emerge on the cliffs at the northeast end of the island — and the abandoned North Light, which stands as a quiet sentinel at the island's northern end and is bordered by dunes that serve as a rookery for the local seagull population.

The trip begins at 7:00

p.m. on Friday, with bus transportation from the Museum to Montauk, where Members will spend the night. The next morning they'll cruise to the island. Participants will arrive back at the Museum at around 9:00 p.m. on Saturday. The trip is open only to Participating and Higher Members ages 18 and up. The fees — which include transportation, hotel accommodations, buffet breakfast, and island tour — are \$145 per person for single occupancy and \$195 for double occupancy. Use the coupon below to request further information.

Members' Workshop

Understanding Geology

Wednesdays, September 22 and 29
5:30–7:30 p.m.

\$50, and open only to Participating and Higher Members
Ages 18 and up



Sidney Horenstein will show you how geologists determine the relative ages of rocks and how some of the moon's prominent features were formed. This two-part workshop will bring geological principles to life and make them easily understandable. Horenstein, the Museum's coordinator of environmental public programs and a geologist, will use commonplace items to demonstrate some

fundamentals of geology. Participants will work individually to create facsimiles of folded mountains, which result from continental collisions. They'll also make models of minerals that illustrate the crystal systems.

This is a hands-on workshop, so come prepared to roll up your sleeves. Use the coupon below to register, and please note that tickets are available only by mail.

Members' Adult-Child Workshop

USS Enterprise Retrofit

Sunday, September 19
10:30 a.m.–noon or 1:30–3:00 p.m.
\$26 per couple, and open only to Participating and Higher Members
Ages 7 and up

Trekkies, unite! June Myles is calling all intergenerational wannabe starship captains together in honor of the Planetarium's *Star Trek: Retrospective* exhibition.

The mission: to build a model of the *Enterprise* or another futuristic spacecraft. No computerized engineering

plans or instruction manuals will be provided; however, a wealth of ordinary and unusual materials will be available for the enterprising Trekkie willing to navigate in the creativity sector.

This adult-child workshop is intended to allow the adult Trekkie to infiltrate the next

generation (or vice versa) and pass along valuable ancient forms of amusement. All starships will be beamed home.

To enter your position on our captain's log, use the coupon below. Note: indication of the presence of your adult-child team will be accepted only by mail.

Members' Weekend in Lancaster County

The Lost Dutchman Gemboree

Saturday, August 14–Sunday, August 15

A summer festival of minerals, fossils, gems, and jewelry, the Lost Dutchman Gemboree draws thousands of visitors to eastern Pennsylvania. Among its attractions are specimens for beginning or advanced collectors, fine-cut gems, custom-designed jewelry, jewelry repair and stone-setting booths, and many other items and services.

Members can visit the gemboree and pan for gold in a lovely stream that flows through the meadows and woods of Amish country. Gold was discovered during the first gemboree, and visitors have panned each year since. The gold flakes are small but fairly abundant, so chances of coming up with a showing of gold are good.

Participants will travel by bus from the Museum to the fairgrounds in Lebanon, Pennsylvania (the drive is approximately four hours). They'll spend the afternoon at the fair and in the evening they'll attend a workshop on gemstones at the Quality

Inn, where they'll spend the night. On Sunday, Members will pan for gold in the morning and return to the fairground, departing at 5:30 p.m.

Registration is limited to

Participating and Higher Members ages 13 and older. Fees are \$145 per person for single occupancy and \$195 per person for double occupancy. Use the coupon at right for further information.



Panning for gold

Membership Workshops and Weekends. Use this coupon to register for *Summer Workshops for Kids*, *Clearwater Sail* (indicate first and second choice of dates), *USS Enterprise Retrofit* (indicate first and second choice of times), and *Understanding Geology*. To receive further information about the trips to Block Island and the Lost Dutchman Gemboree, please check the appropriate box.

Name(s) of program(s): _____

Number of tickets and price (please indicate which program if more than one): _____

Total amount enclosed: _____

- ☐ Send me further information about the trip to Block Island
☐ Send me further information about the Lost Dutchman Gemboree

Name: _____

Address: _____

City: _____ State: _____ Zip: _____

Daytime telephone: _____

Membership category: _____

Please make check payable to the American Museum of Natural History and mail with a **self-addressed, stamped envelope** to: *Workshops and Weekends*, Membership Office, American Museum of Natural History, Central Park West at 79th Street, New York, NY 10024-5192.



Learn and Teach Origami

In these special classes for volunteers, origami specialist Michael Shall will instruct beginners in the art of folding. Students start with simple models like the swan, sailboat, and jumping frog and progress to more complicated models like the flapping bird and omega star.

The sessions will be conducted from 6:30 to 8:30

p.m. on six Wednesdays: September 8, 22, and 29, October 6, 13, and 20. Please note that the classes are progressive: each lesson builds upon teachings from the previous class.

The classes are free, with all materials provided. In exchange, students are expected to repay the 12 class hours as origami volun-

teers, helping the Museum teach at the annual Origami Holiday Tree as well as the spring and summer origami tables. The teaching tables are staffed at all times during Museum hours in the holiday season, including weekends and evenings.

To register for the origami classes for volunteers, please call (212) 769-5566.

Summer Fun at the Origami Table

Museum visitors of all ages can take a break from the summer heat by joining the origami volunteers in the air-conditioned Hall of Ocean

Life. The origami volunteers are back by popular demand, and they'll show visitors how to fold paper into sailboats, whales, and jumping frogs.

The volunteers will be on hand from Monday, August 2, through Sunday, August 15, from 11:00 a.m. to 3:00 p.m.

A Planet-Walk through the Solar System

The Earth as a Peppercorn

Sundays, July 18 and August 15
1:00 p.m.
Free

It's difficult to picture the dimensions of the solar system—the planets are relatively small and distances between them almost absurdly great. For a model whose scale is true to size and distance, it's necessary to step outside.

The planet-walk is a 1,000-yard model of the solar system that was devised in 1969 by astronomer and teacher Guy Ottewill. The walk begins on the Planetarium's front steps at 81st Street, where volunteer tour leader

Robert Campanile will take participants on a journey of discovery that covers the universe.

For further information about the tours, call the Volunteer Office at (212) 769-5566.

Scuba Diving and Seining

Sunday, August 22

The Gulf Stream's eddies lead tropical fish into the shallows of local beaches by late summer, and these migrant fish survive only until the weather turns cold. Join staff members from the New York Aquarium and the Department of Ichthyology in observing and collecting these exotic fish on a Sunday cook-out at the beach.

The program is presented by Friends of Fishes, Pan Aqua, and the New York Aquarium for Wildlife Preservation. Tickets are \$99 for divers, \$60 for nondivers, and \$30 for children under 12. Proceeds from the event will benefit the Department of Ichthyology. Admission includes entrance to the aquarium and a tour, the use of collecting equipment (nets for

divers, seines for waders), fish identification help from the aquarium staff, barbecue and social, and a special membership in Friends of Fishes.

For reservations, call Friends of Fishes at (212) 289-3605 or fax (212) 360-6625. Divers must also pre-register at Pan Aqua at (212) 496-2267. Proof of certification is required, and the use of diving equipment is included in the fee.

Tickets can be ordered by mail. Make your check payable to Friends of Fishes/AMNH, and mail with a self-addressed stamped envelope to: Friends of Fishes, Department of Ichthyology, American Museum of Natural History, Central Park West at 79th Street, New York, NY 10024-5192.

Bears: Imagination and Reality



The popular images of bears — in myth, art, literature, and history — from prehistoric times to the present are contrasted with the reality of bears in nature in the new exhibition Bears: Imagination and Reality. Winnie the Pooh, Smakey the Bear, and an array of teddy bears are among the Gallery 77 exhibition's fanciful representations of the bears among us. Bears also depicts the less familiar black bear and grizzlies.

A Call to Teach

Each year thousands of schoolchildren visit the Museum. We need you as a teaching volunteer to answer their questions and add to their sense of wonder about the world. Teaching volunteers work with classes on

school day mornings. Previous teaching experience is not required; we will train you. The next teaching training program starts this fall.

Call the Museum's Volunteer Office at (212) 769-5566 for an application.

Celestial Fender-Bender

The Peekskill Meteorite

On October 9 of last year a Peekskill, New York, resident ventured outside after hearing a loud crash. A football-sized meteorite lay embedded in her driveway, having drilled its way through the trunk of her 1981 Chevy Malibu.

The meteorite was visible around most of the eastern United States, and since it occurred on a Friday night during the high school football season, several amateur and professional video photographers recorded the event. This footage offers scientists a rare opportunity to calculate the meteorite's orbit, perhaps to a known asteroid.

The car and the meteorite will be on display at the Museum in the 77th Street foyer, starting July 30.

Happenings at the Hayden

Sky Show

**Orion Rendezvous...A Star Trek®
Voyage of Discovery**

See page 1 for details of the new Sky Show.

Children's Shows

Wonderful Sky is a special Sky Show for preschoolers. Children sing along with images of their favorite Sesame Street Muppets as they learn about rainbows, the phases of the moon, sunsets, and stars. Sat., July 10, at 10:30 a.m. Admission for Participating and Higher Members is \$4 for adults and \$2 for children for the July 10 show. Starting in August, admission to **Wonderful Sky** will be \$6 for adult Participating and Higher Members and \$3.50 for their children. Showtimes are Sat., Aug. 7, at 10:30 and 11:45 a.m.

Shows usually sell out in advance; reservations, by mail only, are necessary. Make your check payable to the Hayden Planetarium (Attn: Wonderful Sky, Central Park West at 81st Street, New York, NY 10024), indicate membership category and a first and second choice of showtimes, and include a self-addressed, stamped envelope and your daytime phone number. For additional information, call (212) 769-5900.

Robots in Space features Lucasfilm's R2D2 and C-3PO™ and has been created especially for children ages 7 to 12. Together with a live host, these famous space robots take children on a tour of the universe. See how satellites and probes — the real space robots — help us learn about worlds near and far. Journey from the earth to other planets and distant black holes. Sat., July 10, at 11:45 a.m. Admission for Participating and Higher Members is \$4 for adults and \$2 for children. For additional information, call (212) 769-5900.

Laser Shows

Journey into another dimension where laser visuals and rock music combine to create a dazzling 3-D experience of sight and sound. Shows are presented on Fridays and Saturdays at 7:00, 8:30, and 10:00 p.m. For prices and show schedule, telephone (212) 769-5100.

It's always a good idea to call before visiting the Planetarium, since prices, programs, and showtimes are subject to change without notice. For general Planetarium information, call (212) 769-5920 or (212) 769-5100.

Museum Notes

Hours

Exhibition Halls
Mon.-Thurs. & Sun. 10:00 a.m.-5:45 p.m.
Fri. & Sat. 10:00 a.m.-8:45 p.m.

The Museum Shop
Mon.-Thurs. & Sun. 10:00 a.m.-5:45 p.m.
Fri. & Sat. 10:00 a.m.-7:45 p.m.

The Junior Shop
Mon.-Fri. 10:00 a.m.-4:45 p.m.
Sat. & Sun. 10:00 a.m.-5:45 p.m.

The Museum Library
Tues.-Fri. 11:00 a.m.-4:00 p.m.

Diner Saurus Fast Service Eatery
Daily 11:00 a.m.-4:45 p.m.

Garden Cafe
Reservations: (212) 769-5865
Lunch: Mon.-Fri. 11:30 a.m.-3:30 p.m.
Dinner: Fri. & Sat. 5:30-7:30 p.m.
Brunch: Sat. & Sun. 11:00 a.m.-4:00 p.m.

Whale's Lair
Fri. 3:00-8:00 p.m.
Sat. Noon-8:00 p.m.
Sun. & most holidays Noon-5:00 p.m.

Snack Carts (at 77th Street & on the first floor of the Roosevelt Memorial Hall)
Sat. & Sun. 11:00 a.m.-4:00 p.m.

The Discovery Room
Passes are distributed at the first-floor information desk beginning at 11:45 a.m. Ages 5-10 Children must be accompanied by an adult. Closed on holidays and weekdays.
Sat. & Sun. Noon-4:30 p.m.

The Natural Science Center
For children of all ages and their families. Closed on Mondays and holidays.
Tues.-Fri. 10:30 a.m. - 12:30 p.m. and 2:00-4:30 p.m.
Sat. & Sun. 1:00-4:30 p.m.

Entrances

During Museum hours visitors can enter the building through the 77th Street entrance, the parking lot entrance (81st Street), or the Roosevelt Memorial Hall entrance (79th Street and Central Park West). **Visitors attending programs after hours can enter the building through the driveway entrance at 79th Street and Central Park West.**

Naturemax

The Naturemax Theater presents Antarctica, a thrilling exploration of the highest, driest, coldest, and most mysterious continent on earth. Viewers will take a spectacular helicopter ride over towering glacial peaks and dive with the first humans to explore the crystalline caverns of the Chaos glacier. Antarctica depicts the natural history, delicate ecology, and awesome beauty of the earth's last great wilderness.

Showtimes for Antarctica are 10:30 and 11:30 a.m., 1:30 and 3:30 p.m. daily. Tropical Rain Forest, which portrays the 400-million-year evolution of these vanishing resources, is shown at 12:30, 2:30, and 4:30 p.m.

On Friday and Saturday at 6:00 and 7:30 p.m., Antarctica is shown on a double bill with Tropical Rain Forest. The Museum offers a dinner/theater package that includes admission, double feature, and dinner in the Garden Cafe. For reservations call (212) 769-5350.

Schedules and prices are subject to change without notice. Call (212) 769-5650 for further information.
Admission (Participating and Higher Members):
Adults: \$4 single feature; \$5.50 double feature
Children: \$2 single feature; \$3 double feature

Birthday Parties

Theme parties for young Members 5-10 years old are two hours long and held at 3:30 p.m. on Tuesday through Friday. The group should be no fewer than 10 and no more than 20. The fee is \$275 plus \$15 per child. (The cost includes all materials, juice, ice cream, and favor bags. The cake is not included.) Call (212) 769-5606 for further information.



Librarian's Choice: Treasures from 124 Years of Collecting is on display in the Library Gallery

Parking

The Museum's parking lot is located on 81st Street between Central Park West and Columbus Avenue. Space is limited and available on a first-come, first-served basis; fees are \$12 for cars and \$11 for buses. The lot is open from 9:30 a.m. to 9:30 p.m. on Sunday through Thursday and from 9:30 a.m. to midnight on Friday and Saturday.

Hertz Manhattan, located one block away from the Museum at 210 West 77th Street (between Broadway and Amsterdam), offers parking discounts to Members: on Monday through Friday they receive a \$2 discount off regular prices and on Saturday and Sunday Members receive a \$3 discount.

Call the Membership Office at (212) 769-5606 for information about alternative parking.

Museum Tours

Free Museum Highlights Tours are available to individuals and families. Tours are conducted daily at 10:15 and 11:15 a.m., 1:15, 2:15, and 3:15 p.m. Free Spotlight Tours are also available to individuals and families.

Group Tours are available for a fee. All Group Tours must be scheduled through the Volunteer Office. For details, call (212) 769-5566.

Outreach Program

A member of the Volunteer Staff is available to present to your organization a free slide show that highlights the Museum's collections. Call the Volunteer Office at (212) 769-5566 for details.

A Fifth-Grade Special

Friends of Fishes has formed a new committee to educate children about the Hudson River and its fauna. The committee consists of student teachers who want to share their enthusiasm for science by giving fifth-graders hands-on experience. The program will explore the variety of fish in the Hudson River through informal discussion, displays, and a petting tank.

The 90-minute sessions take place two Saturdays each month. The program is open to all fifth-graders and is limited to 16 per session. For further information call Heidi Michelsen, director of the Elementary Education Committee, at (212) 289-3605 or fax (212) 427-6659.

Phone Numbers

Museum information (212) 769-5100
Membership information (for questions about Museum events) (212) 769-5606
Participating Members' Customer Service (for questions and problems related to Rotunda and Natural History magazine — missed issues, address changes, and other information) (800) 283-AMNH
Planetarium information (212) 769-5900
Education Department (212) 769-5310
Discovery Tours (212) 769-5700
..... toll-free outside NY State: (800) 462-8687
Naturemax (212) 769-5650
Development/Public Affairs (212) 769-5270
Volunteer Office (212) 769-5566
Museum Shop (212) 769-5150
Library Services (212) 769-5400
Natural History magazine (212) 769-5500
Members' Book Program (212) 769-5500

Sun Mon Tues Wed Thur Fri Sat

July 1993

American Museum of Natural History



4 Independence Day. The Museum is open.

5



7 3:00-4:30 and 5:30-7:00 p.m. The Revolution and the New Nation in NY. Members' walking tour. Tickets required. Page 2. The 5:30 tour is SOLD OUT.

8 9:00 a.m.-5:00 p.m. How Water Works: Tour of NYC's Water Supply and Pollution Control Systems. Members' tour. Tickets required. Page 2.

9

10 11:00 a.m. NY Map Society. Room 319. Free.

11

12

13

14 4:30-6:30 p.m. Deciphering the Human Skeleton. Members' workshop. Tickets required. Page 2.

15 9:00 a.m.-5:00 p.m. Members' Day Trip to Kensico Dam and Reservoir. Tickets required. Page 2.

16

17



18 1:00 p.m. The Earth as a Planet. A Planet Walk through the Solar System. Reservations required. Page 6.

19

20 7:00 p.m. Fantasy Dinosaurs of the Movies. Members' evening program. Kaufmann Theater. \$9 for Members, \$12 for non-Members. Page 2. 7:30 p.m. Linnaean Society of NY. Blum Lecture Room. Free.

21

22 1:00-4:00 p.m. Clearwater Sail. Members' family program. Tickets required. Page 2.

25

26

27 7:00 p.m. Operation Berkshire. Members' evening program. Kaufmann Theater. Free for Members, \$8 for non-Members. Page 3.

28

29 7:00 a.m.-8:00 p.m. Members' Whale Watch. Tickets required. Page 2.

30

31 1:45 p.m. Oceans: The Life Within, the Mysteries, and the Future. Sign language tour of the Hall of Ocean Life. This free tour begins in the second floor Rotunda. For further information, call the Volunteer Office at (212) 769-5566 (voice).

Sun Mon Tues Wed Thur Fri Sat

1

2

3

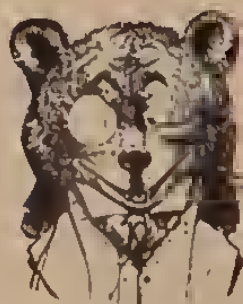
4

5

6

7

August 1993



9 10:30 a.m.-noon. Know Your Noses. Members' children's workshop. Tickets required. Page 2.

10 10:30-2:30 p.m. Jurassic Park, NYC. Members' children's workshop. Tickets required. Page 2. SOLD OUT.

11 10:30 a.m.-2:30 p.m. Bird Stats. Members' children's workshop. Tickets required. Page 2.

12 10:30 a.m.-2:30 p.m. Bears. Members' children's workshop. Tickets required. Page 2. 7:30 p.m. Linnaean Society of NY. Blum Lecture Room. Free.

13 10:30 a.m.-noon. Leaf Literacy. Members' children's workshop. Tickets required. Page 2.

14 Members' Week end in Lancaster County: The Lost Dutchman Gembores. Page 5.

15 1:00 p.m. The Earth as a Planet. A Planet Walk through the Solar System. Reservations required. Page 6.

16

17 3:00 and 5:30 p.m. Chelsea The NY of a Century Ago. Members' walking tour. Tickets required. Page 2. The 3:00 tour is SOLD OUT.

18 8:00 p.m. Morocco and the Casbah Dance Experience. Members' evening program. Kaufmann Theater. \$7 for Members, \$10 for non-Members. Page 4.

19 10:30-2:30 p.m. Jurassic Park, NYC. Members' children's workshop. Tickets required. Page 2.

New and Improved

A variety of renovations are under way at the Museum. We are giving a new look to our dinosaurs, and while renovations are taking place access to some exhibition halls will be restricted. The halls of Earth History, Late and Early Mammals, and Late and Early Dinosaurs are closed until further notice.

Dinosaur devotees should stop by the Roosevelt Memorial Hall on the second floor for a look at the Barosaurus, the world's tallest freestanding dinosaur exhibit. The Gallery 3 exhibition The Dinosaurs of Jurassic Park features spec-

tacular models of creatures appearing in the film Jurassic Park, along with actual fossils.

The Museum's newest exhibition hall, the Hall of Human Biology and Evolution, is open. The hall's exhibits are united by the theme of humanity's place in nature and are organized into three sections: an examination of human biology and anatomy by comparison with traits shared by other living creatures; depictions of the path of human evolution; and an exploration of the origins of human creativity.

25 1:00-4:00 p.m. Clearwater Sail. Members' family program. Tickets required. Page 2.

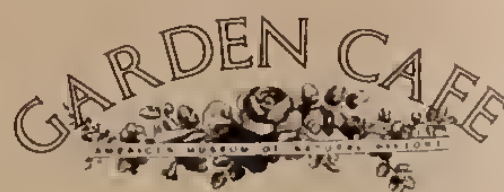
26 7:00 p.m. Woman of Power. Members' evening program, presented in observance of Women's Equality Day. Kaufmann Theater. Free for Members, \$8 for non-Members. Page 4.

This summer, your group gets an even better deal.

Our group rates are always a great reason to come to the beautiful Garden Cafe.

But, July through September, we have an even better deal. If your group is 20 people or more, we'll give you a 15% discount off our regular low group rates.

What a great reason to enjoy our delicious summer menu amid the greenery of our garden setting. Call (212) 769-5865 for the details.



The Museum receives substantial support from a number of major sources. We are particularly grateful to the City of New York, which owns the Museum buildings and provides funds for their operation and maintenance, and to the New York State Council on the Arts, National Science Foundation, National Endowment for the Arts, National Endowment for the Humanities, Institute for Museum Services, 300 corporations, 100 private foundations, 520,000 members, and numerous individual contributors.

ROTUNDA

For Participating and Higher Members of the American Museum of Natural History

Vol. 18, No. 8 September 1993



Strange New Worlds: *Star Trek* and the Sixties

Thursday, September 23

7:00 p.m.

Kaufmann Theater

\$6 for Members, \$9 for non-Members

Even people who have never seen an episode of *Star Trek* are familiar with the expression "Beam me up, Scotty," and recognize Mr. Spock's pointy-eared head. Ever since its premiere in 1966, devotees around the world have followed the series, which projected the wonders of intergalactic travel in the twenty-third century with themes, values, concerns, and conflicts that emerged directly out of 1960s America.

Mary Henderson, curator of art at the National Air and Space Museum,

has organized a major *Star Trek* retrospective exhibition that is now on display at the Hayden Planetarium (see page 15 for details). At the Members' program *Strange New Worlds: Star Trek and the Sixties*, she'll discuss the ways in which the series reflected contemporary issues such as civil rights, sexuality, and the search for utopia.

While the nation was wracked by the Vietnam War, economic crises, cultural upheaval, and urban and campus rebellions, *Star Trek* presented

an optimistic vision of the future in which these conflicts could be resolved. In fulfilling their mission to seek out new life and new civilizations, the *Enterprise* crewmembers were constantly challenged to overcome their prejudices as they interacted with aliens, making racial tolerance one of the show's ongoing themes.

The show's premise was based on a Cold War scenario; *Star Trek* characters operated in an uneasy state of suspended hostilities among the

United Federation of Planets and the Romulan and Klingon empires. The episode "A Private Little War" — in which Captain Kirk attempts to establish a balance of power between a defenseless state and an aggressor — was television's first Vietnam parable. *Star Trek* again made television history with the medium's first interracial kiss, between Kirk and Uhura.

To register for *Strange New Worlds: Star Trek and the Sixties*, use the September Members' programs coupon on page 3.

Stanford White's New York

Wednesday, September 8

7:00 p.m.

Kaufmann Theater

\$6 for Members, \$10 for non-Members

Architect and designer Stanford White was born in New York in 1853. He was murdered here in 1906 at the original Madison Square Garden, a building of his own design. White's creations embody the peak of Beaux-Arts elegance in the New York of the late nineteenth century, and in *Stanford White's New York* architectural historian David Garrard Lowe will examine the influ-

ences, developments, and impact of White's masterpieces.

Among White's other famous works are the Washington Memorial Arch in Washington Square, Judson Church, the Century and Metropolitan clubs, the Tiffany and Gorham buildings, and glorious mansions for the Pulitzers, Whitneys, and Vanderbilts. White was also a major designer of

country houses on Long Island and on the Hudson River.

After the program, Lowe will sign copies of his book *Stanford White's New York* (Doubleday), which will be available for purchase. Use the coupon on page 3 to register for the program.

Lowe will also lead a walking tour that looks at White's architectural wonders (see the related article below).

Members' Walking Tour

Beaux-Arts Buildings of New York

SOLD OUT from previous issue of *Rotunda*

Discover some of the surviving vestiges of New York City's Beaux-Arts beauties on a walking tour that will spotlight the work of architect Stanford White. Historian David Garrard Lowe, who will present the Members' program *Stanford White's New York* (see the related feature above), will lead the tour.

Participants will meet at the Washington Square Arch and explore the Greenwich Vil-



Judson Memorial Church in 1905

lage area, visiting White's birthplace, Judson Church, and buildings by White on Broadway.

Tours will take place on Sunday, September 12, at 11:00 a.m. and 1:00 p.m. Both tours are sold out.

from David Garrard Lowe's *Stanford White's New York*

Hudson River Cruise

Saturday, October 2

Noon-4:00 p.m.

\$50 for Members, \$60 for non-Members

Don't miss the fall colors! Spend an idyllic afternoon aboard a catamaran on a *Hudson River Cruise* and enjoy spectacular views of the Hudson Highlands' fall foliage. A pair of experts will be on hand to discuss fascinating aspects of the scenery.

Sidney Horenstein, the Mu-

seum's coordinator of environmental public programs, will point out the highlights of the landscape and aspects of geological interest. He'll provide the ongoing commentary with William Schuster, the director of the Black Rock Forest Consortium, who'll talk about local plant life and

the relationship of Black Rock Forest to the rest of the Hudson Highlands.

Participants will cruise up to West Point and back. Members should bring a bag lunch. Use the coupon on page 5 to register, and please note that tickets are available only by mail.

Members' Evening with James Donaldson

Ghosts of Cape Horn

and

Whales Weep Not

Tuesday, September 14

7:00 p.m.

Kaufmann Theater

Free for Members,

\$8 for non-Members

Two films that take viewers over the sea and under it are featured this month at the Museum: *Ghosts of Cape Horn*, an exciting tale of the American sailing ships that rounded the treacherous horn, and *Whales Weep Not*, a documentary that reveals the underwater world of the planet's largest toothed predator, the sperm whale. James Donaldson, producer and director of the films, will introduce them and answer questions afterward.

The power and struggle of sailing ships at sea are captured in *Ghosts of Cape Horn*, an in-depth view of the American square-riggers that battled their way around the horn. The 52-minute feature focuses on actual ships and crews that made the hazardous 18,000-mile voyage from the docks of New York to San Francisco by way of Cape Horn, an area considered the worst corner of the ocean world.

Ghosts is highlighted by actual footage taken by Alan Villiers and Captain Irving Johnson aboard square-riggers in the 1920s. In addi-

tion, the film incorporates archival stills and recent action footage that dramatizes the struggles of these tall ships. Together, these elements provide a somber, mysterious look at this part of maritime history.

Whales Weep Not concentrates on a research project sponsored by the World Wildlife Fund in Sri Lanka's Indian Ocean Whale Sanctuary. The film follows a dedicated team of researchers as they document the social behavior and population dynamics of the sperm whale, immortalized in Melville's *Moby-Dick* as a symbol of man's attempt to conquer nature.

Author Richard Elfts called *Whales Weep Not* "a film of unqualified excellence.... The world will know more about sperm whales when the film is shown than all the novelists and whalers — yes, and even the writers and painters of whalers — could ever tell."

The film is 25 minutes long.

Don't miss this special Members' evening. Use the coupon on page 3 to register.

ROTUNDA

ISSN 0194-6110

Vol. 18, No. 8
September 1993

Donna Bell — Editor
Sheila Greenberg — Manager of Membership Services
Angela Soccodato — Designer
Rita Campon — Copy Editor
Peter Zelaya — Fulfillment Coordinator
Risa Miller — Program Coordinator

Rotunda, a publication for Participating and Higher Members of the American Museum of Natural History, is published monthly September through June, bimonthly July and August. Publication offices are at *Natural History* magazine, American Museum of Natural History, Central Park West at 79th Street, New York, NY 10024-5192. Telephone: (212) 769-5606. Subscriptions: \$50 a year for Participating Membership; \$100 a year for Contributor Membership. © 1993 American Museum of Natural History. Second-class postage paid at New York, NY. Postmaster: Please send address changes to: *Rotunda*, Membership Office, American Museum of Natural History, Central Park West at 79th Street, New York, NY 10024-5192.

Printed by Waldon Press, Inc. New York



Members' Trip to Block Island

Friday, September 10-Saturday, September 11

Savor one of the last week-ends of summer with a getaway to one of the Nature Conservancy's "last great places" — the resourceful, independent farming and fishing community of Block Island.

Naturalists from the Okeanos Institute will accompany Members on a natural history tour of the island that

promises some exciting moments of birdwatching (Block Island lies along the flyway of many migratory species).

The trip begins at 7:00 p.m. on Friday, with bus transportation from the Museum to Montauk, where Members will spend the night. The next morning they'll cruise to the island. Participants will arrive back at the Museum at around

9:00 p.m. on Saturday. The trip is open only to Participating and Higher Members ages 18 and up. The fees — which include transportation, hotel accommodations, buffet breakfast, and island tour — are \$195 per person for single occupancy and \$145 for double occupancy. Use the coupon on page 5 to request further information.

From Parlor to Politics

Thursday, September 30
7:00 p.m., Kaufmann Theater
\$6 for Members, \$9 for non-Members

Millions of American women from different backgrounds entered reform movements and politics during the tumultuous period between 1890 and 1925 known as the Progressive Era. Excluded from formal political power (most women could not vote or hold public office before 1920), they formed national organizations to address the country's growing social problems — unregulated industrial expansion, rapid urban growth, rising immigration, and increasing barriers between races and between classes.

Historian Edith Mayo will discuss the emergence of women into public life. She'll

show how the entry of women into politics placed family concerns at the center of the reform agenda and shaped legislation and social policies of the twentieth century. Women organized to promote temperance and labor reform, abolish child labor and develop kindergartens and playgrounds, and improve public health. The profession of social work began with community centers like Jane Addams' Hull House in Chicago, where immigrants and the poor found social services.

Mayo has been a staff member of the Smithsonian's National Museum of American History for over 20 years.



Edith, 5 years old, worked all day in a Texas cottonfield in 1913

A curator in the museum's division of Political History, she coordinated *From Parlor to Politics*, a permanent exhibition at the museum.

Use the coupon at right to register.

Behind-the-Scenes Tours of the

Department of Herpetology and Ichthyology

Saturday, October 30, and Thursday, November 4
\$12, and open only to Participating and Higher Members
Ages 13 and up

Cold-blooded creatures with backbones are the focus of the Members' upcoming behind-the-scenes tours at the Museum. The tours will visit one of the world's preeminent research centers for a look at the fishes, amphibians, and reptiles in the Department of Herpetology and Ichthyology.

Members will visit the department's collection areas and labs, which are never open to the general public, to see and hear about ongoing research in systematics and evolution — information that is used for conservation ef-



forts around the world. The department develops and maintains a collection of whole preserved specimens, bones prepared as skeletons, and tissues frozen for biochemical study or prepared for light and electron-microscope study.

Scientists from the department will be on hand to describe how specimens are gathered in the field and prepared for the collections. They'll talk about their use of dermestid beetles in cleaning skeletons and the value of preserving specimens in alcohol. They'll explain the methods by which animals are cleared and stained and allow Members to take a close-up look at some specimens through microscopes. Live fish will be on display, and the scientists will discuss some of their studies of cichlid behavior.

The tours last about one hour. Use the coupon at left to register, and please note that tickets are available only by mail.

Behind-the-Scenes Tours of the Department of Herpetology and Ichthyology. \$12, and open only to Participating and Higher Members. Tours will leave at 15-minute intervals and last about an hour. We will send you confirmation by mail indicating the exact time your tour will start. Please indicate a first, second, and third choice.

- ___ Saturday, October 30, between 10:30 a.m. and noon
- ___ Saturday, October 30, between 1:15 and 2:30 p.m.
- ___ Thursday, November 4, between 5:00 and 5:45 p.m.
- ___ Thursday, November 4, between 6:30 and 7:30 p.m.

Number of tickets at \$12 each: ___
Total amount enclosed for program: ___

Name: _____

Address: _____

City: _____ State: _____ Zip: _____

Daytime telephone: _____

Membership category: _____

Please make check payable to the American Museum of Natural History and mail with a **self-addressed, stamped envelope** to: *Behind the Scenes*, Membership Office, American Museum of Natural History, Central Park West at 79th Street, New York, NY 10024-5192.

September Members' Programs Coupon

Name: _____

Address: _____

City: _____ State: _____ Zip: _____

Daytime telephone: _____

Membership category: _____

Total amount enclosed: _____
Please make check (if applicable) payable to the American Museum of Natural History and mail with a **self-addressed, stamped envelope** to: *September Members' Programs*, Membership Office, American Museum of Natural History, Central Park West at 79th Street, New York, NY 10024-5192. **Telephone reservations are not accepted. No refunds or exchanges.**

Unless otherwise indicated, no more than eight tickets may be ordered for a program. Participating Members are entitled to four tickets per program at the Members' price. Higher Members are entitled to six tickets, and Associate Members are entitled to one ticket.

Stanford White's New York

Wednesday, September 8, 7:00 p.m.
Number of Members' tickets at \$6: ___
Number of additional tickets at \$10: ___
Total amount enclosed for program: ___

Ghosts of Cope Horn and Whales Weep Not

Tuesday, September 14, 7:00 p.m.
Number of free Members' tickets
(no more than 2, please): ___
Number of additional Members' tickets at \$5: ___
Number of non-Members' tickets at \$8: ___
Total amount enclosed for program: ___

Strange New Worlds: Star Trek and the Sixties

Thursday, September 23, 7:00 p.m.
Number of Members' tickets at \$6: ___
Number of additional tickets at \$9: ___
Total amount enclosed for program: ___

From Parlor to Politics

Thursday, September 30, 7:00 p.m.
Number of Members' tickets at \$6: ___
Number of additional tickets at \$9: ___
Total amount enclosed for program: ___

DNA Analysis. Thursday, October 14, 7:00 p.m.

Number of free Members' tickets
(no more than 2, please): ___
Number of additional Members' tickets at \$5: ___
Number of non-Members' tickets at \$8: ___
Total amount enclosed for program: ___

Members' private viewing of Antorcticon

Wednesday, October 20, 7:30 p.m.
Number of Members' tickets at \$5: ___
Total amount enclosed for program: ___

War of the Worlds

Saturday, October 23, 4:00 p.m.
Number of Members' tickets at \$6: ___
Number of additional tickets at \$9: ___
Total amount enclosed for program: ___

Forbidden Journey. Sunday, October 24, 3:00 p.m.

Number of Members' tickets at \$6: ___
Number of additional tickets at \$9: ___
Total amount enclosed for program: ___

Ghost Stories. Friday, October 29.

Family program, 6:00 p.m.
Number of Members' tickets at \$5: ___
Number of additional tickets at \$8: ___
Total amount enclosed for program: ___
Adults' program, 8:00 p.m.
Number of Members' tickets at \$8: ___
Number of additional tickets at \$12: ___
Total amount enclosed for program: ___

NOTE: Orders received less than ten days before show dates will be held for pick-up at the door on the day of the program if tickets are still available. If an event is sold out, you will be advised in writing or by phone and your check will be returned. Babies in arms or strollers will not be admitted to programs.

Members' Rug-Hooking Workshops

Two Fridays, October 15 and 22

6:30-8:00 p.m.

\$40, and open only to Participating and Higher Members
Ages 16 and up

This is the Year of the American Craft, and here is your chance to get hooked on a new hobby. June Myles will introduce you to an ideal winter pastime that will provide hours of quiet amusement and help you weed out your closets.

Most nineteenth-century settlers in the New World couldn't afford to import carpets from their homelands, so they turned to the materials at hand — old feedsacks and worn-out cloths. They cut

woven woolens into strips, which they hooked through a burlap backing according to patterns drawn with charcoal. The primitive designs usually reflected their surroundings — barnyard animals, the homestead, and family pets. Some of these handmade coverings for drafty floors became family heirlooms, and others are collectors' items of the 1990s.

At this two-part workshop you'll start with a very small project, and we'll provide all

the materials (except the scissors) to complete it. In the first session you'll learn the hooking basics, and the following week you'll learn a variety of techniques to finish the piece. (Ideally, you'll find some time to hook in between.) Then you'll be ready to create one-of-a-kind pieces on your own, from pillows to room-sized rugs.

Use the coupon on page 5 to register, and please note that tickets are available only by mail.

Forbidden Journey

The Life of Alexandra David-Neel

Sunday, October 24

3:00 p.m.

Kaufmann Theater

\$6 for Members, \$9 for non-Members



David-Neel in a shrine room

photo courtesy of Barbara Foster

Members' Day Trip to

Hawk Mountain

Saturday, October 16

7:00 a.m.-7:00 p.m.

\$60, and open only to Participating and Higher Members
Ages 13 and up

Members can enjoy an autumn day of birdwatching at Pennsylvania's Hawk Mountain, a spur of the Kittatinny Ridge in the eastern Appalachians. After leaving their breeding grounds in Canada and the northern states, thousands of migrating hawks and other birds of prey pass through Hawk Mountain Sanctuary, where they're admired by flocks of bird-watchers.

Naturalist Stephen C. Quinn, a Museum authority on birds and birdwatching, will accompany Members (see page 13 for details of Quinn's weekly field classes in Central Park). He'll join Members on a hike around the mountain to look for raptors, and while lunching on the mountain's north lookout, they'll watch for migrating birds of prey.

Transportation is by bus; the drive is about three hours each way. Be sure to wear proper clothing for the outdoors, including hiking boots or sneakers, and don't forget to bring binoculars and a bag lunch (there are no refreshments for sale at the sanctuary).

Use the coupon on page 5 to register, and please note that tickets are available only by mail.



0209E INCH

Forbidden Journey: The Life of Alexandro David-Neel will profile the adventures and accomplishments of an extraordinary woman. A compulsive traveler, an explorer, an opera singer, a feminist, and an internationally acclaimed writer, David-Neel is perhaps best known for her 1924 expedition into the closed holy city of Lhasa, Tibet. She was the first foreign woman ever to enter the mystical capital.

David-Neel entered the forbidden city disguised as a beggar, one of her many transformations from a middle-class Parisian. She wrote 25 books on Eastern themes that have been translated into many languages, and her *My Journey to Lhasa* and *Magic*

and Mystery in Tibet, published in the 1930s, are still in print.

Barbara Foster, an assistant professor at Hunter College, and her husband, Michael Foster, will present a fascinating account of David-Neel's 101 years of adventure, honor, intrigue, and fame. The Fosters are the authors of *Forbidden Journey* (Harper/San Francisco, 1989), a biography of David-Neel, and their presentation will coincide with the 125th anniversary of the birth of the woman Lawrence Durrell termed "the most astonishing Frenchwoman of her time."

Use the September Members' programs coupon on page 3 to register for the program.

Members' Workshop

Understanding Geology

Wednesdays, September 22 and 29

5:30-7:30 p.m.

\$50, and open only to

Participating and Higher Members

Ages 18 and up

Sidney Horenstein will show you how geologists determine the relative ages of rocks and how some of the moon's prominent features were formed. This two-part workshop will bring geological principles to life and make them easily understandable.

Horenstein, the Museum's coordinator of environmental public programs and a geologist, will use commonplace items to demonstrate some

fundamentals of geology. Participants will work individually to create facsimiles of folded mountains, which result from continental collisions. They'll also make models of minerals that illustrate crystal systems.

This is a hands-on workshop, so come prepared to roll up your sleeves. Use the coupon on page 5 to register, and please note that tickets are available only by mail.

Members' Adult-Child Workshop

USS Enterprise Retrofit

Sunday, September 19
10:30 a.m.-noon or 1:30-3:00 p.m.
\$26 per couple, and open only to
Participating and Higher Members
Ages 7 and up



The USS Enterprise

Trekkies, unite! June Myles is calling all intergenerational wannabe starship captains together in honor of the Planetarium's *Star Trek* retrospective exhibition (see page 15).

The mission: to build a model of the *Enterprise* or another futuristic spacecraft. No computerized engineering plans or instruction manuals will be provided; however, a wealth of ordinary and unusual materials will be avail-

able for the enterprising Trekkie willing to navigate in the creativity sector.

This adult-child workshop is intended to allow the adult Trekkie to infiltrate the next generation (or vice versa). Of course, all starships will be beamed home.

To enter your position on our captain's log, use the coupon below. Note: indication of the presence of your adult-child team will be accepted only by mail.

Membership Workshops and Tours. Use this coupon to register for *Hudson Cruise*, *Understanding Geology*, *Hawk Mountain*, *Rug Hooking*, and *USS Enterprise Retrofit* (indicate first and second choice of times). To receive further information about the trip to Block Island, please check the appropriate box.

Name(s) of program(s): _____

Number of tickets and price (please indicate which program if more than one): _____

Total amount enclosed: _____
☐ Send me further information about the trip to Block Island

Name: _____

Address: _____

City: _____ State: _____ Zip: _____

Daytime telephone: _____

Membership category: _____

Please make check payable to the American Museum of Natural History and mail with a **self-addressed, stamped envelope** to: *Workshops and Tours*, Membership Office, American Museum of Natural History, Central Park West at 79th Street, New York, NY 10024-5192.

Ghost Stories

Friday, October 29
Kaufmann Theater
Family program (ages 5-12): 6:00 p.m.
\$5 for Members, \$8 for non-Members
Adults' program: 8:00 p.m.
\$8 for Members, \$12 for non-Members

Legends, myths, and true-life adventures are the fabric from which storyteller Laura Simms weaves her tales of enchantment. She's been among the Museum's most popular performers since 1968, and her Halloween shows are a longstanding Museum tradition.

One of America's foremost

performers and students of world folklore, Simms has been hailed as a major force in the renaissance of storytelling in the United States. She has developed a vast repertoire of traditional tales from Africa, Asia, Europe, and the Americas, many of which she heard from Tibetan Buddhist lamas, Maori elders,

and Native American storytellers as well as classical and modern Western theater artists. Through careful adaptation and interpretation, Simms conveys the timeless beauty and meaning of these stories to contemporary audiences.

Use the coupon on page 3 to register for the programs

Biosphere 2: The Human Experiment

Wednesday, September 1
7:00 p.m.
Kaufmann Theater
\$8 for Members,
\$12 for non-Members

There's a Garden of Eden in the middle of the Arizona desert — three acres that encompass a rain forest, a miniature ocean with a coral reef, a marsh, and 3,800 plant and animal species, all enclosed within a huge glass dome. Biosphere 2 is the largest self-sustaining ecosystem ever constructed by humans. For the past two years eight scientists and engineers have been sealed inside the biosphere while they study its "microhabitats." They've recycled their wastes and the ecosystems' natural resources in the hope of discovering better ways to manage the resources of Biosphere 1 — the earth itself.

John Allen, the vice president of Biospheric Development for Space Biospheres



Ventures, will present the Members' program *Biosphere 2: The Human Experiment*. Allen has been involved with the project since its inception in 1984, and his presentation will cover the history of biospheric design, current and future research projects at

Biosphere 2, and implications for the future. The program will be illustrated with slides and augmented by a brief video showing recent views of the ecosystems inside Biosphere 2.

Call the Membership Office at (212) 769-5606 for ticket availability.

War of the Worlds

On Saturday, October 23, at 4:00 p.m., there will be a special showing of *War of the Worlds*, a 1953 film based on H. G. Wells' classic science-fiction fantasy.

The screening will be hosted by Brian Sullivan, the Planetarium's designer of special effects, who will introduce the film and answer questions afterward. The 85-minute film will be shown in the Linder Theater. Tickets are \$6 for Members and \$9 for non-Members; use the September Members' programs coupon on page 3 to register.



Insect in Amber

The Teachings of a Tiny Mummy

On Thursday, October 14, assistant curator Ward Wheeler will present the Members' program DNA Analysis, at which he'll discuss his work in the Museum's Molecular Systematics Laboratory. The program will take place at 7:00 p.m. in the Kaufmann Theater. Tickets are free for Participating and Higher Members and \$8 for non-Members. Use the September Members' programs coupon on page 3 to register.

In the story of *Jurassic Park* scientists clone dinosaurs from DNA found in the gut of a prehistoric blood-sucking fly encased in amber. It's an unlikely scenario; however, prehistoric DNA has been replicated right here in the Museum. It derives not from a dinosaur, but from a tiny mummy between 20 and 30 million years old — the extinct termite *Mastotermes electrodomenicus*.

Like the donor mosquito of *Jurassic Park*, the Museum's termite was found in amber. It was studied through the interdisciplinary team efforts of Rob DeSalle, John Gatesy, Ward Wheeler, and David Grimaldi, who built on the previous work of Museum scientists Jim Carpenter and his colleague Barbara Thorne. All share an interest in the phylogenetic relationships among termites and the other insect groups, particularly cockroaches.

The *Mastotermes* genus of termites once had many widespread representatives; today, the only living species, *M. darwiniensis*, dwells in northern Australia. There it does quite well for itself. According to Wheeler, "In the parts of Australia where they live, the telephone poles have to be made of cement. They will eat anything else."

What makes a termite a termite? Grimaldi explains that all termites are eusocial, a term denoting division of both labor and castes. "There are workers, reproductives, soldiers, and a queen. They construct nests. They usually have highly reduced wing veins. They digest cellulose. They shed their wings. They're very highly reduced morphologically, having lost many characters. In fact, that's one thing that's made it difficult to place who their closest relatives are among the insects. Are they cockroaches? Are they praying mantises?"

Until fairly recently, *Mastotermes* was thought to be a missing link between termites and cockroaches — a sort of "specialized cockroach." On the other side of the evolutionary fence, members of the cockroach group *Cryptocercus* were thought of as "primitive termites." That relationship was challenged by entomologists Carpenter and Thorne even before DNA analysis.

"There was this notion for some time that termites were just social cockroaches," says Carpenter. "Within termites, *Mastotermes* was supposed to be the most primitive. In some superficial ways it looks kind of like a cockroach. For example, a cockroach has an expanded plate called a pronotum that covers its head. Well, *Mastotermes*' pronotum doesn't cover its head, but it's more expanded than any other termite's."

Grimaldi points out other morphological and behavioral similarities. "*Mastotermes*' eggs are laid glued together, looking sort of like an ootheca, or an egg pod, of the type that cockroaches have," he says. "Also, there are certain types of cockroaches that are primitively social and digest cellulose much as termites do." Both *Mastotermes* and *Cryptocercus* have gut endosymbionts (in this case, a variety of protozoa) that help them digest cellulose.

Carpenter points out that there are thousands of cockroach species. Some are quite beautiful, and many are outdoor dwellers that never venture into a kitchen or bathroom. The genus *Cryptocercus* contains at least two species that are found in North

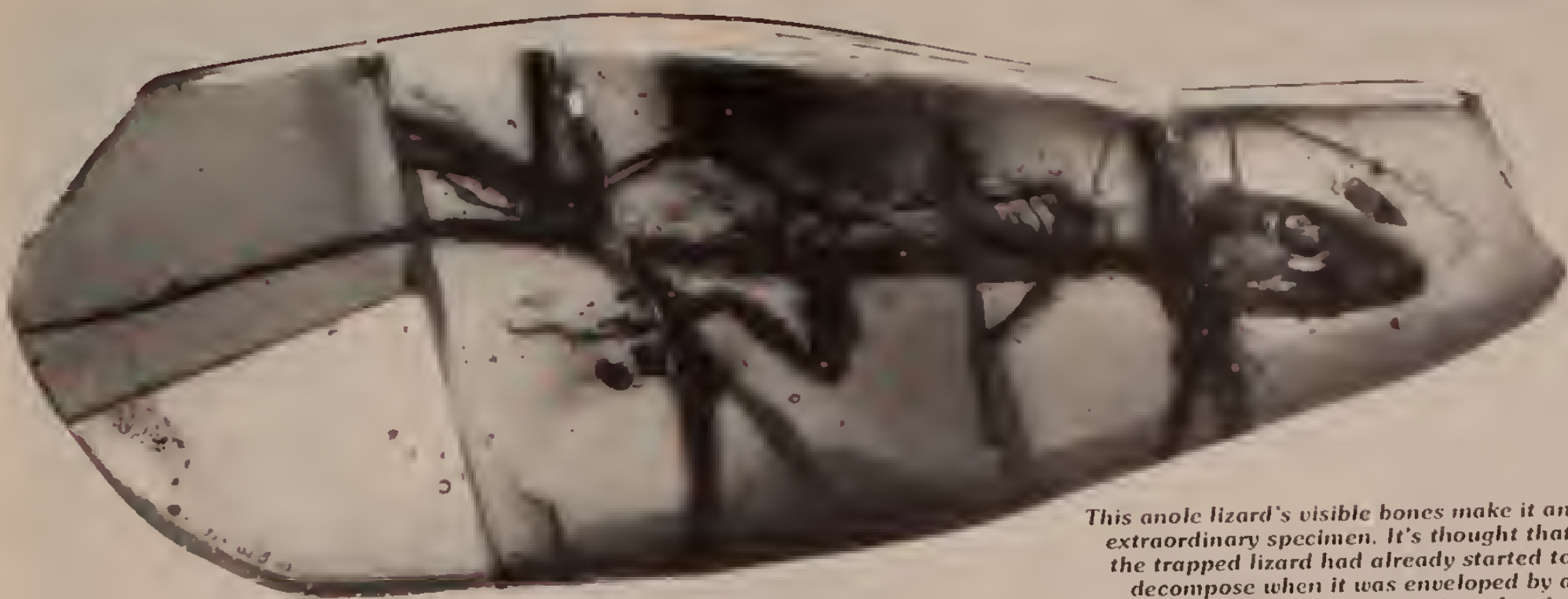
America. "Its behavior is largely what people think make it transitional to termites," says Carpenter. "It's colonial and it lives in wood. You can go out and find it, say, in Pennsylvania, in dead logs."

Both Carpenter and Grimaldi feel uncomfortable with the use of such superficial features to compare groups or classify insects within a group. For example, while *Cryptocercus* might be a colonial, living mastotermitid — as all living termites — are far more advanced in their social organization than any cockroach. And not all of *M. darwiniensis*'s features are truly "primitive" among its fellow termites.

"We showed that there are many traits belonging to *Mastotermes* that are not basal among termites," says Carpenter. "For instance, there is cooperative foraging by the worker members of a colony. It entails all sorts of collaboration and communication among colony members, information on where you're going and how to get back — this is not at all a primitive trait. In some morphological features they appear to be primitive, but it doesn't follow that they are ancestral in any other traits. They've got some morphological features that are less primitive than those of other termites."



A native of Austrolio, this male wood gnot was found in the Dominican Republic. It is about 25 million years old, as is the specimen on page 7.



H. N. S. 23

This anole lizard's visible bones make it an extraordinary specimen. It's thought that the trapped lizard had already started to decompose when it was enveloped by a second coating of resin.

Grimaldi, too, wondered about relationships among termite species. "One of the questions I had was whether all of the species classified in the *Mastotermes* genus are really closely related. I suspected they might not be, because classically the genus has been defined on the basis of primitive characters that evolved long before *Mastotermes* ever evolved — things like the large anal lobe on the hind wing. That's something that cockroaches, praying mantises, and grasshoppers have, but most termites have lost it. It's like classifying humans on the basis of hair — it evolved long before humans ever evolved."

Grimaldi suspected that since many of the identifying characteristics used to define the genus were so generalized, *Mastotermes* was being used as a "taxonomic dumping ground."

Taxonomists have always used morphology and behavior as primary tools of classification; today, genetics plays an increasingly important role. In this case, the Museum had in its vast collection an insect so well preserved in Dominican amber that parts of its DNA could be sequenced, copied, and studied.

Grimaldi, the Museum's amber specialist, says there are many misconceptions about amber. "Many people think it's a gemstone, but it's an organic substance — fossilized resin. People often associate it with pine trees, but it's produced by a variety of plants, including conifers and angiosperms. The material from the Dominican Republic comes from an extinct species of the genus *Hymenaea*, which was a large canopy legume tree."

Grimaldi explains that there are hundreds of amber deposits throughout the world. They vary in age from about 300 million years of age to "fairly recent — just thousands of years old. The oldest amber that we have with insects in it is from Lebanon. It's Lower Cretaceous, about 135 million years old."

Sometimes Grimaldi and other Museum scientists go to the amber mines and deposits to augment the Museum's collection. More often, however, the Museum buys amber from a network of contacts in different areas of the world. "When they see something interesting they contact me," says Grimaldi. "You have to pay for these pieces. We're fortunate in having a very generous patron for amber — Museum Trustee Robert Goelt — and we have a beautiful collection here largely due to his support."

How are these fossils formed? According to Grimaldi, resin flows from a tree when it is injured, and small organisms become trapped in it. "You get flowers, moss, fragments of ferns, myriad insects, spiders, and mites — you even get some tiny vertebrates such as lizards and frogs."

"One big question is why there is so much amber. When you slash a *hymenaea* tree's trunk it bleeds resin. But this doesn't account for the massive amounts of amber we find. What I think happened is that a hurricane trashed a *hymenaea* forest millions of years ago — the trees bled incredible amounts of resin and populations in that forest became mired."

"Most ambers almost float in seawater. In fact, if you go to the Dominican Republic, you find the amber mines high and dry several thousand feet up in the mountains, but they're in marine sediments."

Grimaldi envisions high tides from a hurricane covering the deposits of resin with sediment. Amber forms as uplift occurs. Plates slide against each other, mountains are formed, and 25 million years later an insect yields its ancient genetic strands.

How can DNA remain intact to the point where it can be studied after millions of years? "Amber contains terpenes and isoprenes, which are substances that help preserve anything that becomes mired in the flowing, sticky resin. Amber has bactericidal properties. It also dehydrates materials, and it's the dehydration that actually preserves and embalms the DNA."

In fact, the Egyptians knew about the desiccating properties of amber, and they used it to help preserve mummies. "They ground it up and impregnated the burial gauze. They also stuck it into the cadavers."

"Not everything that gets stuck in amber becomes mummified," Grimaldi points out. "Very often you crack open a piece and the insect within is just a husk, with no tissue inside. Perhaps 80 percent of the specimens are like that."

Fortunately for our scientists, the extinct *Mastotermes electrodominicus* was in good enough condition for its DNA to be extracted and studied.

"Getting DNA from an amber specimen required a high degree of technology and a huge amount of work," according to Wheeler. He, along with DeSalle and Gatesy, was involved in the genetic phase of the research. "Instead of taking two days to go from organism to sequence [as it might for a recent specimen], it took us six months. There is not very much DNA, it's of very poor quality, and it's prone to contamination. We had to do many checks and controls."

Although the isolation and replication of genetic materials is quite technical and complicated, Wheeler describes it in general terms. "The basic way one isolates DNA is through its insolubility in ethanol. You take the specimen, crush it, and add a chemical that will lyse [break up] all the cells. Then you want to get rid of everything else that is also insoluble in ethanol. So we use a series of enzymatic and purification steps to take out other things. The final step is to add ethanol to the solution with some salts, and the DNA comes out of solution."

The scientists had only portions of the termite's DNA to work with. Of this material, they chose a target sequence thought to be diagnostic for determining relationships between and within groups. This sequence was then replicated both within living organisms and in a device called a PCR (polymerase chain reaction) machine.

"We actually take the DNA and put it into a plasmid [a tiny, self-reproducing piece of organic material], which is in turn put into a bacterium. When the bacterium reproduces, the plasmid is replicated along with it. Later we can isolate the plasmid DNA, reextract it, and sequence it."

The PCR machine replicates DNA mechanically. Wheeler describes it as "basically an elaborate heating and cooling block system. In the presence of a special enzyme that is stable under high temperatures, the DNA is alternately melted into its strands and new strands are synthesized. That is done over and over again. It's sort of like 'give a man a penny and double it every day, and eventually he's a millionaire.' You're mimicking replication in the cell with a piece of equipment."

The conclusion drawn after a comparison of sequences with those of many other insect species. Termites are indeed a unique group. Cockroaches and mantids are more closely related to each other than they are to termites. Additionally, *Mastotermes electrodominicus* (the mummy) and *Mastotermes darwiniensis* (the voracious eater of Australian telephone poles) are closer to each other than to other termites, and are most definitely termites. According to Wheeler, these studies "have placed a nail in the coffin of the old theory that termites are specialized cockroaches."

Now that ancient strands of DNA can be replicated, can an entire insect — or a dinosaur — be uncovered?

Grimaldi notes that in *Jurassic Park* dinosaur DNA is extracted from the gut of a blood-sucking insect. "In the thousands and thousands of specimens of insects in amber that I've looked at," he says, "I've never found a blood-sucking insect that was replete with blood. We have dozens of mosquitoes and no-see-ums, we even have a few ticks, sand flies, horseflies — all these groups suck blood, and not one of them has blood in it. The ticks are all flat, and the mosquitoes are skinny."

Another problem, says Grimaldi, is "you're not only dealing with minuscule amounts of tissue, but the blood should be at least partly digested."

Wheeler calls the chances of cloning an entire individual "vanishingly small. The pieces of DNA we isolated were tiny — just a couple of hundred base pairs, not the ten to the ninth or more base pairs that are actually involved in the creation of an organism. That's one thing. The other thing is that it's very important to have these pieces organized. The order of the genes is very important. You can't just put them together in a long string and see what happens. We have no knowledge of how the chromosomes are structured in these creatures."

"A chromosome," Wheeler adds, "is made of more things than simple DNA. There is also a protein scaffolding that we know nothing about. Furthermore, you can't just start off an organism from scratch — there are maternal effects that have to be present from the beginning, when the zygote first starts dividing. Everything that directs this is maternally provided, and we don't have it."

"I'm not saying that it's theoretically impossible to do. It's just that" — and here Wheeler pauses for a moment — "we're not going to do it right now."

— Ruth Q. Leibowitz

Antarctica

Exhibition opens in Gallery 3 on October 22

Members' preview:
Wednesday, October 20, 4:00–7:00 p.m.,
and private viewing at Naturemax, 7:30 p.m.

The world's greatest mysteries lie at the bottom of the globe. Until 1821 no one had ever seen Antarctica, and it took over a century for a few determined explorers, pioneers, and scientists to truly put Terra Australis Incognita (the Unknown Southern Land) on the map. Nobody owns Antarctica — it is not a country or a province or a territory, and there are no natives. Everyone who visits is a foreigner, and the nations that undertake scientific work there act jointly to oversee all the continent's activities.

And what have they found? The new exhibition *Antarctica* profiles the region's wildlife and its human visitors, revealing the effects humans have had on the global environment and the scientific, political, and economic choices that will shape Antarctica's future. Exhibits include penguin dioramas, a mummified seal, video programs, three-dimensional models of ice features, and tools used by people who have lived and worked on the continent.

Members can attend a pre-

view of the exhibition on Wednesday, October 20, from 4:00 to 7:00 p.m. At 7:30 p.m. there will be a special showing of the Naturemax film *Antarctica*. The continent's icy expanses are dramatically recaptured on the Naturemax Theater's four-story high, 66-foot wide screen in the IMAX format, which uses film ten times the size of conventional 35-mm film. Viewers take a spectacular ride through icy chasms and over towering glacial peaks and dive through six feet of ice to explore the underwater caverns of a glacier. Sidney Horenstein, the Museum's coordinator of environmental public programs and resident curator for the exhibition, will offer a ten-minute introduction and slide show before the film, which is 42 minutes long.

The preview is free and open only to Participating and Higher Members; your valid membership card is your ticket of admission. Tickets for the private viewing at Naturemax are \$5; use the coupon on page 3 to order tickets.

Antarctica Lecture Series

Five Wednesdays, starting October 27
7:00–8:00 p.m.
Kaufmann Theater
Series tickets: \$20 for Members,
\$25 for non-Members

American Museum scientists who have been to Antarctica will discuss the continent at a series of slide-illustrated lectures. They'll discuss glaciers and climate changes, penguins and other birds, dinosaurs and drifting continents, the ozone hole, global warming and the nature of the upper atmosphere, and the continent's treasure trove of meteorites. This series is presented in conjunction with the upcoming Gallery 3 exhibition (see the related feature above.)

October 27: *Antarctica: Ice and the Rocks Beneath*. Michael Novacek, vice president and dean of science.

November 3: *Antarctic Treasures from Space — Meteorites*. Martin Prinz, curator, Department of Mineral Sciences.

November 10: *Antarctica: Its Weather; the Ozone Hole; the Nature of the*

Upper Atmosphere to the Edge of the Universe. William A. Gutsch, Jr., chairman and associate astronomer at the Hayden Planetarium.

November 17: *Penguins and Other Antarctic Birds*. George F. Barrowclough, chairman and associate curator, Department of Ornithology.

December 1: *Antarctic Dinosaurs and Drifting Continents*. Mark Norell, curator, Department of Vertebrate Paleontology.

To register, make your check payable to the American Museum of Natural History and mail with a self-addressed, stamped envelope to: *Antarctica*, Attn. Sidney Horenstein, coordinator of environmental public programs, American Museum of Natural History, 79th Street at Central Park West, New York, NY 10024-5192.

Cuba

Nature of an Island

A new exhibition will open in the Akeley Gallery on September 17. *Cuba: Nature of an Island* is a photographic chronicle of the Museum's work with Havana's Museo Nacional de Historia Natural in studies of the island's biodiversity.



The Mack Lipkin Man and Nature Lectures

Speaker: Geologist Frank H.T. Rhodes

Charles Darwin's Portrait of a Small Planet and Charles Darwin's Portrait of a Large Primate

Monday, October 25, and Tuesday, October 26
7:00 p.m., Main Auditorium

Both lectures: \$10 for Members, \$20 for non-Members
Single lecture: \$5 for Members, \$10 for non-Members

Frank H.T. Rhodes, the president of Cornell University, will present this year's Mack Lipkin Man and Nature Lectures. A geologist by training, Rhodes holds the faculty rank of professor of geology at Cornell. In addition to his doctorates in philosophy and science, he holds honorary degrees from more than 20 institutions. His numerous awards include the Geological Society's Daniel Pidgeon Fund, Lyell Fund, and Bigsby Medal.

In 1987 Rhodes was appointed by President Reagan to the National Science Board, and in 1989 he was appointed by President Bush to the President's Education Policy Advisory Committee. The author of more than 70 major scientific articles and monographs and 60 articles on education, Rhodes' books include *The Evolution of Life, Fossils, and Language of the Earth*.

The lectures will begin on Monday, October 25, with *Charles Darwin's Portrait of a Small Planet*. Darwin's early scientific vocation was geology, and his voyage aboard the *Beagle* (1831–36) coincided with the publication of Charles Lyell's *Principles of Geology*. Armed with Lyell's methodology, Darwin devoted himself to the study of the earth, based on his "conviction that some great law of nature remains to be discovered by geologists" (Darwin, unpublished note).

The lecture recounts Darwin's early life and explains the devotion of his early scientific career to the search for this law. Rhodes will discuss the centrality of the *Beagle* explorations to Darwin's other work, including his studies of the age and development of the earth, the history of life, the significance of volcanoes, coral reefs,

ocean-deeps, and mountain chains. The unique portrait of the planet that Darwin created represented the first attempt to design a model of the mechanism by which the earth "works." Darwin's theories about the earth were the foundation for his later theory of evolution and the source of fundamental questions about nature and natural law.

The second lecture, *Charles Darwin's Portrait of a Large Primate*, will take place on Tuesday, October 26. Rhodes will examine Darwin's mature career and his growing conviction that species developed through

evolution driven by natural selection. The scientist's early reticence in addressing the place of humankind in the evolutionary scheme will be addressed, along with the influence of studies of human origins and characteristics by Huxley, Lyell, and Wallace. The great evolutionary debates of the nineteenth century will be reviewed and linked to contemporary concerns about human nature, human values, and human destiny.

Use the coupon below to register for the lectures, and for further information call (212) 769-5019.

Mack Lipkin Man and Nature Lectures. Please indicate single or both lectures.

___ Mon., Oct. 25, and Tues., Oct. 26
Number of Members' tickets at \$10: ___
Number of non-Members' tickets at \$20: ___
Total amount enclosed for program: ___

___ Mon., Oct. 25, only
Number of Members' tickets at \$5: ___
Number of non-Members' tickets at \$10: ___
Total amount enclosed for program: ___

___ Tues., Oct. 26, only
Number of Members' tickets at \$5: ___
Number of non-Members' tickets at \$10: ___
Total amount enclosed for program: ___

Name: _____

Address: _____

City: _____ State: _____ Zip: _____

Daytime telephone: _____

Membership category: _____

Please make check payable to the American Museum of Natural History and mail with a **self-addressed, stamped envelope** to: *Man and Nature*, Office of Special Events, American Museum of Natural History, Central Park West at 79th Street, New York, NY 10024-5192.

The Department of Education Presents

Fall 1993 Lecture Series



Two Evenings with Jared Diamond on Our Disastrous Past

Mystery, Research, and the Dead Sea Scrolls

Tuesday, October 19
7:00-8:30 p.m.
\$22.50 for Members, \$25 for non-Members

Placed in caves more than 2,000 years ago and discovered in 1947, the Dead Sea Scrolls yielded rare insights into the origins of Judaism and Christianity. The scholars controlling access to the scrolls have long contended that nothing of interest remains in the unpublished portions; Robert Eisenman, professor of Middle East religions at California State University at Long Beach, challenges this view as he relates the history, context, and background of these important documents. Eisenman is the coauthor of *The Dead Sea Scrolls Uncovered*, the first complete translation and interpretation of 50 key documents in more than 35 years.

Two Evenings with Jared Diamond on Our Disastrous Past

Tuesday, November 2, and Thursday, November 4
7:00-8:30 p.m.
\$18 for Members, \$20 for non-Members

Jared Diamond is professor of physiology at UCLA's Medical School and a member of the National Academy of Sciences. A frequent contributor to *Natural History* magazine, he is the author of *The Third Chimpanzee: The Evolution and Future of the Human Animal*, which will be available for purchase at the lectures.

Nov. 2: *The Great Leap Forward: How and When Did Humans Become Different from other Animals?* By 100,000 years ago, the skeletal anatomy of some of our ancestors was already nearly modern, yet we were still little more than glorified apes in our behavior. It was only around 40,000 years ago that art, religion, and other distinctly human traits began to appear. What precipitated our great leap forward and finally made us human?

Nov. 4: *Ecological Collapses of Ancient Civilizations: The Golden Age that Never Was.* Among the most riveting puzzles of human history are the collapses of past civilizations such as those of the Classic Maya and the Anasazi Indians of the American Southwest. Could some of these societies have unwittingly undone themselves by destroying their environment? These fascinating mysteries are warnings of our own potential fate.

From Belz to Brooklyn: The Hasidim

Monday, October 18
7:00-8:30 p.m.
\$13.50 for Members, \$15 for non-Members

Ever since Rabbi ben Eliezer, known as the Baal Shem Tov ("Master of the Good Name"), began teaching Hasidism in the early eighteenth century, world Jewry has not been the same. Today the largest concentration of Hasidim in the world is located in three small communities in Brooklyn: Borough Park, Crown Heights, and Williamsburg.

In this slide-illustrated lecture Yale Stoin will discuss the research involved in his new book, *The Hasidim of Brooklyn: A Photo Essay*. He'll also play musical recordings that capture an integral part of Hasidic life.

Behind the Sacred Mask: Tools of the Sacred

Two Tuesdays, starting November 9
7:00-8:30 p.m.
\$22.50 for Members, \$25 for non-Members

Anthropologist Peter Gold will introduce the meaning and ritual use of sacred masks from several important cultural traditions on both sides of the Bering Strait. He'll discuss Yupik Inuit (Alaskan Eskimo) shaman's vision masks; kachina ritual masks of the Hopi and Pueblo Indians; Apache and Navajo tutelary deity masks; and the vast masked



Wildlife Conservation:
Predators, Prey, and Habitats



From Belz to Brooklyn:
The Hasidim

Sacred Clowns by Tony Hillerman

Tuesday, September 21
7:00-8:30 p.m.
\$18 for Members and senior citizens,
\$20 for non-Members

Author Tony Hillerman compiles some of the most valuable ethnological material available today in his mysteries, which offer a sensitive portrayal of

Navajo life. Hillerman will discuss his attempts to heighten awareness of the richness and complexity of Navajo culture.

The author of 16 books, Hillerman is best known for his mystery novels involving the Navajo Tribal Police. His work has been specially recognized by the Navajo Nation and honored by the Jicarilla Apache people, and his books are used in Indian schools throughout the Southwest. Hillerman has also been honored by the American Anthropological Association. Copies of his newest book, *Sacred Clowns*, will be available for purchase and autographing.



Behind the Sacred Mask: Tools of the Sacred

pantheons and rites of Tibetans that issue from both Buddhism and the pre-Buddhist Bon religion.

Nov. 9: *Masks and the Sacred*. The meaning of masks as mirrors of the soul and the universe beyond.

Nov. 16: *Masks and the Ritual Process*. Masks as tools for establishing the sacred within an individual, family, and community at large through ritual dance and healing practices.

Gold will lead participants in this series on Museum tours that examine and discuss masks currently on display. Tours will look at the Eskimo gallery on Wednesday, November 10, at 7:00 p.m., and the Hall of Asian Peoples on Wednesday, November 17, at 7:00 p.m.

The Heirs of Prester John

Three Tuesdays, starting October 19
7:00-8:30 p.m.
\$22.50 for Members, \$25 for non-Members

The medieval legend of Prester John, a fabulously rich Eastern ruler, was the impetus for early explorations by Europeans seeking his wealth. Nina Root, director of Library Services, introduces a complex history that combines myth, legend, and fact.

Oct. 19: *The Legend of Prester John and Early Explorations*. The search for the fabulous riches of the mythical Eastern ruler Prester John led to the early Spanish and Portuguese explorations around Africa, into the Indian Ocean, the South Seas, and beyond. These explorations opened the Pacific to the English, Dutch, and US expeditions.

Oct. 26: *Napoleon in Egypt: The Egyptian Campaign and the Scientific and Artistic Commission*. In addition to military forces, Napoleon took a group of scientists, artists, musicians, and poets to Egypt. These savants suffered the same hardships as the foot soldiers and were abandoned to the British conquerors. The Commission established Egyptology as a science, formed l'Institut de l'Egypte and the Cairo Museum, and discovered the Rosetta Stone.

Nov. 9: *The Opening of Japan: Commodore Perry and the US Naval Squadron*. Japan was closed to all foreigners for centuries. Determined to establish safe harbors and coaling stations for its

whalers, the United States sent a naval squadron to negotiate a treaty in 1852. The story of the opening of Japan, as seen from both sides, is rich in pageantry, intrigue, and frustration.

Music of the Shamans: Songs and Drums from Siberia

Monday, October 25
7:00-8:30 p.m.
\$13.50 for Members, \$15 for non-Members

At the turn of the century the American Museum undertook one of the most ambitious and influential anthropological expeditions ever mounted. The Jesup North Pacific Expedition, under the direction of Franz Boas, documented cultures of eastern Siberia, collecting thousands of artifacts, photographs, and wax-cylinder sound recordings. Many of these items are associated with the practice of traditional shamanism.

This audiovisual program is presented by Thomas R. Miller, scientific assistant in the Department of Anthropology, who will examine the songs and instruments of Siberian shamans, the contexts in which they were collected, and their relevance to the post-Soviet cultural revival in Siberia.

Uncertain Roads: In Search of the Gypsies

Thursday, October 21
7:00-8:30 p.m.
\$13.50 for Members, \$15 for non-Members

The Gypsies — or Rom, as they call themselves in Romany — are probably one of the most romantically envisioned groups of people in the world. They're also one of the most misunderstood and maligned minorities in Europe and the United States today. Yale Strom will discuss his recent research among the Gypsies in Sweden, Hungary, Romania, and the Ukraine as presented in his new book *Uncertain Roads: In Search of the Gypsies*.

Dance Culture in Morocco and Egypt

Four Mondays, starting October 18
7:00-8:30 p.m.
\$31.50 for Members, \$35 for non-Members

Carolina Varga Dinicu performs, teaches, and directs her own dance company under the stage name Morocco. She has researched dance, music, and dress in North Africa, the Mideast, the Mediterranean, and the Caucasus for three decades.

Oct. 18: *Folklore of Morocco*. This lecture examines dances from more than 20 Berber tribes and features theatrical folk dances and the best male shaba and tray dancer in Morocco.

Oct. 25: *National Folklore Troupe of Egypt (Firqua Kawmiyya)*. Theatrical dances based on folkloric or social themes — which are traditional dances and costumes and which are fantasy or satire? How much influence came from outside Egypt?

Nov. 1: *Stars of Egyptian Oriental Dance*. Stylistic differences among the top stars of the current Egyptian Oriental dance scene and changing styles in costuming, music, and movement.

Nov. 8: *Folklore of Egypt and Sudan*. Who are the Dervishes and why do they whirl? What are the differences between the Turkish and Egyptian Dervishes? Who and what are the Ghawazi?

The Land and People of Siberia

Monday, October 18, and Tuesday, October 19
7:00-8:30 p.m.
\$22.50 for Members, \$25 for non-Members

Susan A. Crate, a graduate student in Siberian folklore at the University of North Carolina and a professional storyteller, singer, and interpreter, will present her research on Siberian culture and folklore.

Oct. 18: *Cultures and Sacred Lands of Southern Siberia*. This presentation explores the regions of Buryatia and Lake Baikal, Mongolia, and Tannu-Tuva, viewing traditional cultures as they are today.

Oct. 19: *Dance of Life, Circle of Life*. The Sakha of northeastern Siberia celebrate the arrival of summer with the isiakh kumiss festival. The asyokhai circle dance, an integral part of that festival, emerges in contemporary times as the Sakhas' major ethnic voice. This lecture presents slides and soundtracks of the contemporary festival.

Geology of the Planets

Four Thursdays, starting October 21
7:00-8:30 p.m.
\$31.50 for Members, \$35 for non-Members

This series of lectures — augmented with slides, laser disk images, and film — will take a tour of the planets and their moons for a look at their salient geologic features. Sidney Horenstein, coordinator of the Museum's environmental programs, will begin with an exploration of the solar system and discuss the origin of the planets.

Oct. 21: *Origin of the Solar System, Meteorites, the Dynamic Earth*

Oct. 28: *The Moon, Mercury, and the Asteroids*

Nov. 4: *Venus and Mars*

Nov. 18: *Jupiter and Saturn and Their Moons, Uranus, Neptune, and Pluto*

Mushrooms and Conifers, Mosses and Ferns

Five Thursdays, starting October 14
7:00-8:30 p.m.

or

Five Mondays, starting October 18
2:30-4:00 p.m.
\$36 for Members, \$40 for non-Members

This series of slide-illustrated lectures introduces the mushrooms, mosses, and ferns of forest floors and meadows, lichens of rocky and sandy places, algae at the edge of the sea, and conifers. Identification and ecology of species from the Northeast are stressed by William Schiller, lecturer in botany in the Education Department.

1. *Survival Strategies and Evolution in Plants*
2. *Seaweed Diversity and Sexuality*
3. *The World of Mushrooms and Lichens*
4. *Mosses, Ferns, and the First Forests*
5. *Conifers and Living Fossils*

Minerals, Myths, and Magic

Three Tuesdays, starting November 9
7:00-8:30 p.m.
\$27 for Members, \$30 for non-Members

Joseph J. Peters, senior scientific assistant in the Department of Mineral Sciences, will relate humanity's 35,000-year-old love affair with gemstones.

Nov. 9: *Paleolithic Times and Early Civilization*. Cro-Magnon jewelry. The Rise of Western Civilization in Judea, Egypt, Greece, and Rome. Gemstones used in religion, art, science, or for personal adornment. The Breastplate of Aaron. King Solomon's Mines. Theophrastus' *De Lapidibus* (c. 315 BC). Pliny the Elder's *Natural History* (c. AD 77). Graeco-Roman gem lore.

Nov. 16: *European Middle Ages*. Alchemy's origins in Alexandria. St. Jerome, an early Christian expert on the use of gemstones in the Bible. Medieval theories found in the works of St. Hildegard and St. Albert about the curative or deadly powers of gemstones. Literary sources of misinformation about gemstones.

Nov. 23: *Gem Mythologies of the Americas and Far East*. The ancient mythologies of Chinese jade. Dual influence of Taoism and Buddhism on jade symbolism. Marco Polo's thirteenth-century visit to the gem-rich island of Ceylon. Gemstone mythology of India. Use of jade by Olmec, Maya, and Aztec cultures. Turquoise stone fetishes of Native American Indians.

Minerals, Myths, and Magic Tour of the J.P. Morgan Memorial Hall of Gems

Friday, Nov. 19, or Monday, Nov. 22
7:00-8:30 p.m.
\$15 (no discount for Members)
Limited to 20 adults

It would take 1,001 nights for Joseph J. Peters, senior scientific assistant in the Department of Mineral Sciences, to relate all of the stories he's learned about minerals, myths, and magic. He'll tell some of the best — Sinbad the Sailor in the Valley of Diamonds, Benvenuto Cellini's brush with death in the Castle of Saint Angelo in 1537, and other curious gemological tales.

Jumbo Lecture Series

Saturday, October 2
2:00-3:30 p.m.
and
Two Wednesdays, October 20 and 27
7:00-8:30 p.m.
\$27 for Members, \$30 for non-Members

These lectures, which are presented in conjunction with the exhibition *Jumbo: The World-Famous Elephant*, will explore the natural history of elephants and conservation issues.

Oct. 2: *Jumbo and His Relatives*. At the time of Jumbo's capture and for many years after, very little was known about the history of African elephants. Richard Van Gelder, former curator in the Department of Mammalogy, will discuss the natural history of elephants.

Oct. 20: *Conservation of African Forest Elephants*. Bill Weber, director of Conservation Operations for NYZS/The Wildlife Conservation Society, will describe his work and a preservation project focused on the elusive African forest elephant.

Oct. 27: *Why Save Elephants: The Aspirin Approach*. Jeheskel Shoshani, research associate with the Cranbrook Institute of Science, views the elephant from artistic, biological, ecological, evolutionary, and historical standpoints.

Predators, Prey, and Habitats

Four Saturdays or Sundays: October 23, 24, 30, or 31; November 6, 7, 13, or 14
11:00 a.m. or 1:00 p.m.
Each program \$9 for adult Members, \$10 for adult non-Members, \$6 for Members' children, \$7 for non-Member students and children

Andrew Simmons, a celebrated wildlife expert specializing in predators, has studied, raised, and

lectured on wild animals for more than 20 years. He travels with and exhibits big cats, bear cubs, carnivorous reptiles, and birds of prey, telling fascinating tales about how these creatures survive and adapt within their environments. Audiences of all ages attain insights into wildlife behavior, including the ways in which species become endangered and how research and wildlife management contribute to their survival. This program is supported in part by Global Communications for Conservation, Inc.



Fall Botany in Central Park

Animal Drawing

Eight Tuesdays, starting October 19
7:00-9:00 p.m.
\$10S (materials not included; no discount for Members) and limited to 25 persons

Join a Museum artist to sketch subjects such as gazelles on the African plains and timber wolves in the snowbound North. After the Museum has closed to the public, students use the famed habitat groups as well as individual mounted specimens. Stephen C. Quinn, naturalist and assistant manager in the Museum's Exhibition Department, guides each participant, whether beginner or experienced artist.

Botany in Central Park

Saturdays, Oct. 2 or 16, or Wednesday, Oct. 13
9:00-11:00 a.m.
\$15 per walk (no discount for Members)
Limited to 25 people

A two-hour morning walk in Central Park observes signs of fall in the flowers and trees. Participants will learn about plant identification and ecology from William Schiller, lecturer in botany in the Education Department.

Arthur Marks Tours

Sundays, October 3 and 24
1:30-3:30 p.m.
\$2S for both walks; \$1S for one (no discount for Members)

Oct. 3: *Living on Manhattan's West Side: Broadway and Central Park West*. Starting at 106th Street near Straus Park — near the place

where Duke Ellington once lived — this tour will wend its way down Broadway to turn east at 96th Street and conclude at Central Park West.

Oct. 24: *With Central Park as a Front Yard*. Starting at 86th Street and Central Park West, this tour will head north along the park to end at the First Church of Christ Scientist at 96th Street. The architectural merits of buildings near Central Park will make it clear why so many people love this neighborhood.

Trip to Sterling Hill Mine

Saturday, October 2
9:30 a.m.-5:00 p.m.
\$50 (no discount for Members)
Limited to 36 adults

Visit the last operating zinc mine in New Jersey and tour underground tunnels, view spectacular mineral displays in a natural environment, and learn about mining history and technology. Joseph J. Peters, senior scientific assistant in the Department of Mineral Sciences, leads this exciting tour.

Spring 1994 Weekend for Bird Enthusiasts

Saturday and Sunday, May 14 and 15
Limited to 36 adults; fee: \$175

A two-day bus trip covers wooded areas near New York City and makes daytime and evening visits to a lake and bog area in the Pine Barrens of New Jersey. The tour continues to Brigantine National Wildlife Refuge, where many marsh birds as well as woodland species can be seen. This trip is led by Jay Pitocchelli, professor in biology at Saint Anselm's College. Call (212) 769-5310 for the itinerary and application.

Spring 1994 Weekend Whale Watch off Cape Cod

Friday, May 20-Sunday, May 22
Limited to 45 adults; fee: \$400

Our search for whales involves three 4-hour whale cruises by private charter from Provincetown. In addition to the marine biologists aboard the boat, two Museum staff members will accompany the group: Brad Burnham, senior instructor in natural science in the Education Department, and naturalist Stephen C. Quinn, who will assist in identifying the many species of coastal birds that may be seen. Cost includes transportation, two nights' accommodation, meals, and lectures. Call (212) 769-5310 for the itinerary and application.

Lecture Series

I enclose a stamped, self-addressed envelope together with a check (or money order) payable to the American Museum of Natural History for: \$_____.

Advance registration is requested, but registration will be accepted on the opening night if the course is not filled. No single lecture tickets are sold in advance. There are no refunds. Children are not admitted to lectures, workshops, or field trips. For further information call (212) 769-5310.

Please print:

Course _____ Day _____ Hour _____

Course _____ Day _____ Hour _____

Name: _____

Address: _____

City: _____ State: _____ Zip: _____

Daytime telephone: _____

Please make check payable to the American Museum of Natural History and mail with a stamped, self-addressed envelope to: Lecture Series, Education Department, American Museum of Natural History, Central Park West at 79th Street, New York, NY 10024-5192.

1993 Margaret Mead Film Festival

Monday, October 4–Sunday, October 10
Monday–Thursday, 6:30–10:30 p.m.
Saturday, 11:00 a.m.–8:30 p.m.
Sunday, 11:00 a.m.–5:00 p.m.



The Anthropologist on Wednesday, October 6



Madame l'Eau on Monday, October 4

Daily tickets, which go on sale at 5:00 p.m. on weekdays and at 10:30 a.m. on weekends, are \$7 for Members and \$8 for non-Members and are not sold in advance. A ticket does not guarantee admission to the film of your choice; all seating is on a first-come, first-served basis.

A festival pass (valid October 4–10) is \$36 for Members (\$40 for non-Members). Use the coupon at right to order a pass.

The following listings are festival highlights. For a complete schedule of films and videos call (212) 769-5305 or use the coupon at right.

Monday, October 4

Auditorium

6:30 p.m. *Madame l'Eau*. (Jean Rouch, 1992. 105 min. US premiere.) Jean Rouch and his Nigerian friends — Lam, Damouré, and Tallou, who appeared in *Jaguar* and *Petit à Petit* — create another improvisational film. They bring a new twist to the concept of agricultural devel-

opment when they travel to Holland with their faithful mule to learn how to apply windmill technology to their drought-ravaged fields. The results are both comical and surreal. Speaker: Director Jean Rouch.

8:40 p.m. *The Shvitz*. (Jonathan Berman, 1993. 47 min. NY premiere.) An unlikely community is forged in the 240° heat of the last traditional steambaths in the United States. The film traces how this Eastern European custom has evolved into the late twentieth century. Speaker: Director Jonathan Berman.

Linder Theater

9:20 p.m. *Ladyboys*. (Jeremy Marre, 1992. 51 min. Video.) Two teenage boys leave their homes in rural Thailand to seek fame and fortune as transvestite performers. In the glamorous cabarets of the urban south they encounter pain, prejudice, and humor as they strive for new identities.

Tuesday, October 5

Auditorium

6:30 p.m. *Black Man's Houses*. (Steve Thomas, 1992. 58 min. NY premiere.) "They've got blue eyes and blond hair, so how can they be Aborigines?" The settlement of Wybalenna (Black Man's Houses) was established in the 1830s for the internment of black survivors of the conflict between Europeans and Aborigines in Tasmania. This film documents the reoccupation of this site by Tasmanian Aborigines searching for the mass graves of their ancestors. It also explores the meaning of aboriginality today, when genetics and skin color matter less than kinship and cultural association. Speaker: Director Steve Thomas.

7:50 p.m. *Hear My Cry*. (Maciej Janusz Drygas, 1991. 47 min.) A powerful and disturbing portrait of the 1968 public self-immolation of Ryszard Siwiec, a 60-year-old Pole protesting Soviet oppression of Poland in the wake of the invasion of Czechoslovakia. Weaving together family reminiscences, eyewitness accounts, and archival footage, this film conveys the shock, confusion, and mixed reactions of those directly touched by this desperate act.

Kaufmann Theater

7:45 p.m. *The Dragon Bride*. (Joanna Head, 1993. 55 min. Video. US premiere.) The marriage of a teenage girl to four 8- to 16-year-old brothers is not unusual among the Nyinba people of the Nepalese Himalayas. The young bride faces the prospect of life with four husbands as preparations for the lavish wedding begin.

Linder Theater

6:30 p.m. *Zoo*. (Frederick Wiseman, 1993. 130 min.) Wiseman captures the drama of everyday life at the Miami Zoo with his masterful observational style. He reveals the interrelationships of the institution's animal, human, ethical, research, and financial elements.

Wednesday, October 6

6:30 p.m. *Total Baby*. (Kate Davis, 1993. 57 min. World premiere.) A wry look at some of the contemporary philosophies and products of American middle-class child rearing is juxtaposed with shilting practices and beliefs since the seventeenth century. Speaker: Director Kate Davis.

7:50 p.m. *The Anthropol-*

ogist. Andrea Gschwendtner, 1992. 50 min. US premiere.) In the early twentieth century, Rudolph Poch, Vienna's first anthropologist, pioneered the use of moving pictures and wax-cylinder recordings. With the outbreak of World War I, he continued his work in the Austro-Hungarian POW camps. His studies were used later during the eugenics movement. This film weaves drama and documentary to raise chilling questions about the use and misuse of anthropological research.

Thursday, October 7

Auditorium

6:30 p.m. *Tempus de Baristas*. (David MacDougall, 1993. 100 min. World premiere.) The change in lifestyles effected by technology are the focus of this film, in which a 17-year-old shepherd named Pietro compares his life with those of his 60-year-old father and their mutual friend Miminu, who is 43. Although separated by only 20 years, they have grown up in dramatically different worlds. Speaker: Director David MacDougall.

8:30 p.m. *Children of Fate: Life and Death in a Sicilian Family*. (Susan Todd, Andrew Young, Robert Young, 1992. 85 min.) In 1961 Robert Young went to Sicily to document for NBC the social conditions of Cor-tile Cascino, a Palermo slum. The documentary was never aired since it was deemed "too powerful for US audi-

ences." In 1988 Young returned to the community with his son and daughter-in-law to create a follow-up film that interweaves archival and contemporary footage, focusing on a mother who struggles to survive in the face of illness, death, and economic and marital hardships. Speakers: Susan Todd, Andrew Young.

There will also be a retrospective of the work of Timothy Asch, who will present and discuss his ethnographic films. On Tuesday, October 5, he'll show the Indonesia films, and on Wednesday, October 6, the Yanomamo films.

Festival T-Shirt

These 100 percent cotton T-shirts feature the festival's distinctive 4-mask logo. Use the coupon below to order, and be sure to specify medium, large, or extra-large. The shirts are \$11.50 each for Members and \$13 for non-Members.

Become a Friend of the Festival for \$125

Benefits include a festival pass; an official T-shirt; an invitation for two to the Director's Reception, a gathering of the festival's international array of film directors, advisory committee and staff; and reserved seating (make your contribution before September 30 and you can reserve a seat for any 6:30 screening). Please use the coupon below to become a Friend.

1993 Margaret Mead Film Festival

Festival Pass

Number of passes at Members' price of \$36: ____
Number of passes at non-Members' price of \$40: ____
Total amount enclosed: ____

Margaret Mead Film Festival T-Shirt

____ Medium ____ Large ____ Extra-large
Number of T-shirts at Members' price of \$11.50: ____
Number of T-shirts at non-Members' price of \$13: ____
Total amount enclosed: ____

Friend of the Festival

Number of Friends at \$125 each: ____
Total amount enclosed: ____

____ Please send me a complete schedule of films and videos.

Name: _____

Address: _____

City: _____ State: _____ Zip: _____

Daytime telephone: _____

Membership category: _____

Please make check payable to the American Museum of Natural History and mail with a **self-addressed, stamped envelope** to: Mead Festival, Education Dept., American Museum of Natural History, Central Park West at 79th Street, New York, NY 10024-5192.

Field Class in Bird ID in Central Park

Tuesdays, 7:00-9:00 a.m.
September 7, 14, 21, and 28
October 5, 12, 19, and 26

Thursdays, 9:00-11:00 a.m.
September 9, 23, and 30
October 7, 14, 21, and 28

Join naturalists Stephen C. Quinn (on Tuesday) and Harold Feinberg (on Thursday) in observing the fall migration of birds through Central Park. Participants will learn how to identify species according to their field marks, habitat, behavior, and song.

The fee for the program is \$5, to be paid to the instructor each morning before the walk starts. There is no pre-registration. Classes meet across from the Museum on the northeast corner of Central Park West and 77th Street.

For further information call (212) 769-5310.



Global Cultures in a Changing World

The Education Department offers public programs that celebrate diverse cultural groups and their traditions. Lectures, films, demonstrations of music and dance, workshops, and performances are featured. These programs will address cultural misconceptions and biases, issues concerning adults and youths in a changing world, and the preservation and change of cultural traditions.

These programs are presented in conjunction with

city-wide events, including observations of the five hundredth anniversary of Puerto Rico and the Dominican Republic, the Year of Indigenous Peoples, Festival Korea, India Festival, Black History Month, Women's History Month, Asian Pacific American Heritage Month, and the city's global mosaic of cultures and traditions.

For a brochure listing specific programs call the Multicultural Outreach Office at (212) 769-5315.

Fall Children's Workshops

panzees will help to define their connections, similarities, and differences. Presented by Anita Steinhart, physical anthropology doctoral candidate. *Two Sundays, Nov. 7 and 14, 2:00-4:00 p.m. \$30.*

SATURDAY WORKSHOPS FOR PRESCHOOLERS

A Whale's Tale

One 4-year-old with one adult

Children will help tell the tale of a humpback whale's migration from the warm waters of the south to the colder northern seas. Film, song, a take-home sheet activity, and a visit to the Hall of Ocean Life are included. Presented by Dayna Reist, instructor at the New York Aquarium and specialist in early childhood education. *Saturday, Oct. 2, 10:30-11:30 a.m. \$20.*

HALF-DAY WORKSHOPS

Paper Making

Grades 4 and 5 (ages 9-11)

The craft of paper-making is centuries old. Participants use microscopes and study plant structure while learning the art of paper-making. Presented by Museum science education instructor Jay Holmes. *Saturday, Oct. 9, 10:30 a.m.-1:30 p.m. \$25.*

All About Fish

One 5-year-old with one adult

Children will learn about fish shapes and how fish breathe and swim in a hands-on program that includes making fish prints, visiting the Hall of Ocean Life, and creating fish windsocks. Presented by Judith Levy, who has taught at the Carnegie Museum of Art. *Saturday, Oct. 16, 10:30 a.m.-noon. \$25.*

Northwest Coast Indian Stories

Grades 2 and 3 (ages 7-9)

Can you "read" a totem pole? Totem poles serve as memory devices, unlocking stories and legends. Traditional stories about totem poles and other objects of Northwest Coast art will be told to young children using artifacts and a visit to the exhibition hall. Presented by Ron Sopyla, instructor at the Westside Montessori School. *Saturday, Oct. 16, 10:30 a.m.-1:30 p.m. \$25.*

Science Fun

Grades 2 and 3 (ages 7-9)

Find out how to make rainbows, play tricks with mirrors, and peek around the corner without being seen. Presented by Dina Cukier Schlesinger, computer science teacher, P.S. 140. *Saturday, Oct. 23, 10:30 a.m.-1:30 p.m. \$25.*

The Fish We Eat

Grades 2 and 3 (ages 7-9)

Why is a flounder flat? What does a tuna eat? These and other questions about food from the sea will be answered by making fish prints, playing games, and designing your own fish. Presented by Museum science education instructor Brad Burnham. *Saturday, Nov. 6, 10:30 a.m.-1:30 p.m. \$25.*

Drawing Whales

Grades 5 and 6 (ages 10-12)

Visit the Hall of Ocean Life with Richard Ellis, the well-known painter of marine natural history. Ellis will talk about the Museum's whale exhibits and the hall's design and construction and introduce children to techniques of drawing whales. *Saturday, Nov. 6, 10:30 a.m.-1:30 p.m. \$25.*

Drawn from the Sea

Grades 4 and 5 (ages 9-11)

Learn the fundamentals of drawing with contour drawing, pen-and-ink, and watercolor techniques. Children will study basic fish anatomy and sketch in the Hall of Ocean Life. Presented by Angela Tripi-Weiss, art director at P.S. 87. *Saturday, Nov. 13, 10:30 a.m.-1:30 p.m. \$25.*

Knitting

Grades 5 and 6 (ages 10-12)

Discover how wool gets from the back of a sheep to your back. Children will see demonstrations of carding and spinning and learn simple knitting techniques. Presented by Museum science education instructor Emily Ogrinz. *Saturday, Nov. 13, 10:30 a.m.-1:30 p.m. \$25.*

Holiday Crafts

One 8- or 9-year-old with one adult

Join us for a multicultural holiday craft festivity at the Museum. Presented by craft artist Robin Otton. *Saturday, Nov. 20, Session A: 10:30 a.m.-noon, Session B: 12:30-2:00 p.m. \$20.*

Beautiful Swimmers

Grades 3 and 4 (ages 8-10)

Learn about sawfish, sharks, and angelfish in a discovery program that explores fish adaptations through games, fish printing, songs, film, and a visit to the Hall of Ocean Life. Presented by Merryl Kafka, assistant director of education at the New York Aquarium. *Saturday, Nov. 20, 10:30 a.m.-12:30 p.m. \$20.*

SUNDAY COURSES

Join the Green Team

Grades 4 and 5 (ages 9-11)

A two-part awareness workshop on environmental problems facing our planet today. Children are given a "green audit" to take home. At the second meeting, a review of the audit will increase their awareness and show how we all can make a difference. Presented by Roy Mueller, special events coordinator/assistant manager, the Nature Company, South Street Seaport. *Two Sundays, Oct. 17 and 24, 10:30 a.m.-12:30 p.m. \$30.*

Making Tunnel Books

Grades 5 and 6 (ages 10-12)

Based on an exploration of the Hall of Ocean Life, children will draw marine life, then cut, fold, and assemble a three-dimensional tunnel book. Presented by Lois Morrison, textiles and book artist, author, and teacher of American crafts. *Two Sundays, Oct. 17 and 24, 10:30 a.m.-12:30 p.m. \$30.*

Human Origins

Grades 5 and 6 (ages 10-12)

Children study human origins using museum casts of fossil ancestors to broadly trace our evolutionary lineage and those of other primates. A session in the laboratory using skeletal material of both modern humans and chim-

DEPARTMENT OF EDUCATION Workshops for Young People

I would like to register for the following workshop(s):

Workshop: _____

Student's last name: _____ First: _____

Age: _____ Grade: _____

Parent's last name: _____ First: _____

Daytime phone (area code): _____

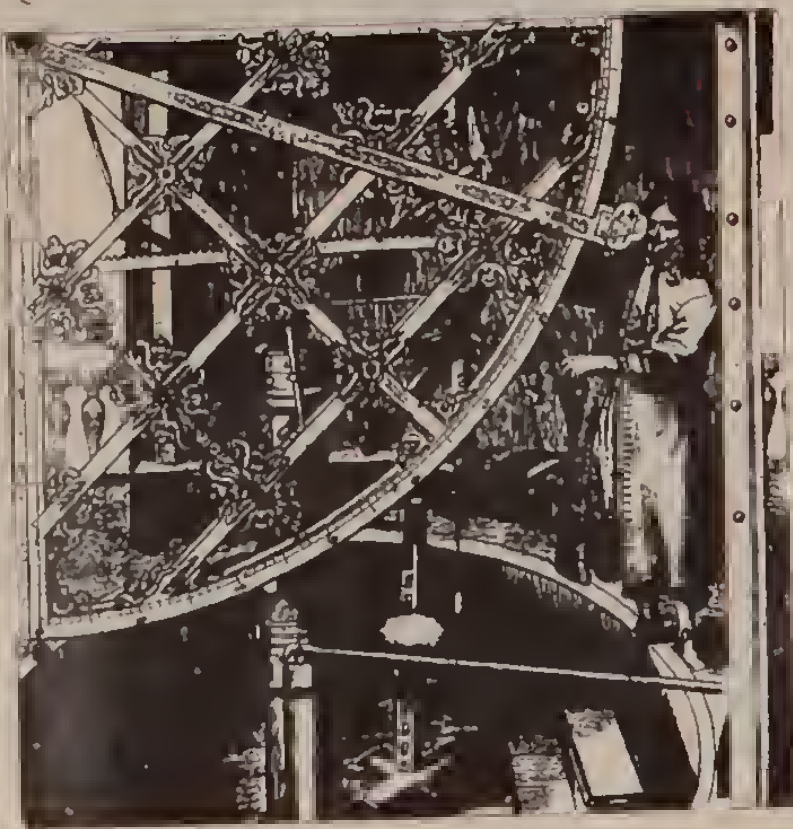
Address: _____

City: _____ State: _____ Zip: _____

Total amount enclosed: _____

Register early. Class sizes are limited. Separate check per workshop or course. Please note that due to limited registration discounts are not available for these workshops. Send this coupon with your check or money order payable to the American Museum of Natural History and a **self-addressed, stamped envelope** to: Workshops for Young People, Department of Education, American Museum of Natural History, 79th Street and Central Park West, New York, NY 10024-5192.

Courses for Stargazers



ASTRONOMY: BASIC COURSES

Introduction to Astronomy

Eight Mondays, beginning Sept. 20, or eight Tuesdays, beginning Sept. 21; 6:30-8:40 p.m.
\$85.50 for Members
\$95 for non-Members

A first course in astronomy, designed to introduce the many interesting aspects of the universe to those without a math or physics background. Topics include earth as a planet, the moon, the solar system, the stars, the Milky Way, galaxies, quasars, and black holes. Common observations such as planet motions and the rising and setting of the sun and moon are explained. No previous knowledge of astronomy is assumed. The course serves as a prerequisite for the intermediate-level courses, where specific areas are covered in more detail.

Adventures in Astronomy

Five Saturdays, beginning Oct. 9; 9:40-11:40 a.m.
\$67.50 for Members
\$75 for non-Members

Confused about the difference between a star and a planet? Can't tell astronomy from astrology? Don't know Aquarius from Sagittarius or a black hole from a brown dwarf? Join us for a new Saturday course for the whole family (ages 10 and up). Through the use of the Sky Theater, labs, and astronomical equipment, we will explore the birth and death of stars, the origin of the universe, the search for extraterrestrial life, and the current night sky.

Celestial Highlights

Three selected Mondays, Oct. 18, Nov. 15, Dec. 13; 6:30-7:40 p.m.
\$27 for Members
\$30 for non-Members

This course will focus on the interesting and exciting events in the skies of the

coming month. The night sky will be accurately simulated by the Zeiss projector in the Sky Theater, and students will learn how to find prominent constellations of the season and where and when to see gatherings of the moon and planets. The Planetarium's extensive collection of special effects will illustrate upcoming celestial events, including meteor showers and eclipses. Students will also learn about prominent planets, current space missions, and how to find deep-space treasures like nebulae, star clusters, and galaxies that are visible through binoculars or small telescopes.

How to Use a Telescope

Eight Mondays, beginning Sept. 20; 6:30-8:40 p.m.
\$85.50 for Members
\$95 for non-Members

An introduction to choosing and using a small amateur telescope. Topics include basic optics of telescopes, equatorial and altitude-azimuth mountings, eyepieces, collimating a telescope, setting up for observation, locating objects in the sky, and the use of charts and other observation aids. No previous knowledge of astronomy is assumed, and this course is particularly recommended for those considering the purchase of a telescope and those who have one but aren't sure how to use it.

ASTRONOMY: INTERMEDIATE COURSES

Stars and Galaxies

Six Tuesdays, beginning Sept. 21; 6:30-8:10 p.m.
\$72 for Members
\$80 for non-Members

Stars come in a wide variety of colors — red, yellow, and blue — and sizes — from giants to dwarfs. Learn about the diversity of stars, from their births to their sometimes spectacular death throes as supernovae. Not all stars are

individuals like our sun; most come in multiple systems and clusters. The types of galaxies in which we find these stars are equally diverse. Discover exotic exploding galaxies and basics about our own Milky Way with Joe Patterson of Columbia University's Department of Astronomy and Astrophysics.

METEOROLOGY

Weather and Climate

Eight Thursdays, beginning Sept. 23; 6:30-8:40 p.m.
\$85.50 for Members
\$95 for non-Members

Everyone talks about the weather. This course is for those who would like to know more about the atmosphere — how it works and how it affects us. Topics include the structure and motions of the atmosphere, climate, weather forecasting, and atmospheric optics such as rainbows, halos, and twinkling stars. No formal training in physics or math is required.

SPACE ART

Introduction to Space Art

Five Wednesdays, beginning Sept. 22; 6:30-8:40 p.m.
\$67.50 for Members
\$75 for non-Members

Planetarium artist Dennis Davidson will discuss drawing and painting techniques, how to research scientifically accurate astronomical art, the history of space art, and the role of the artist at the Planetarium. In this studio course, students will create astronomy drawings and paintings with individual guidance from the instructor. Rendering techniques in acrylic, gouache, pen and ink, and airbrush will be demonstrated. Students must bring their own supplies and be prepared to sketch at the first session. Enrollment is limited to 15 students.

AVIATION

Ground School for Private and Commercial Pilots

Fifteen sessions, Tuesdays and Thursdays, beginning Sept. 21; 6:30-9:00 p.m.
\$166.50 for Members
\$185 for non-Members

This course helps private and commercial pilots prepare for the FAA written examinations. It can also help as a refresher for biennial flight reviews, relieve some instances of fear of flying, and survey some aspects of flight training and aircraft ownership. Subjects include physiological factors affecting pilot performance, visual and electronic navigation (VOR, ADF, DME, SAT, NAV, and LORAN), charts, publications, computers, principles of aerodynamics, weather, instruments, engine/propeller operations, communications, regulations, and safety. Students will plan cross-country trips and have an opportunity to try the flight-deck simulator. The instructor is FAA certified.

Ground School for Instrument Pilots

Fifteen sessions, Tuesdays

and Thursdays, beginning Sept. 21; 6:30-9:00 p.m.
\$166.50 for Members
\$185 for non-Members

Intended for those planning to take the FAA written examination for an instrument rating. This course also provides updated information for instrument competency checks and familiarizes VFR pilots with instrument techniques. Subjects include electronic navigation (VOR, ADF, DME, SAT, NAV, and LORAN), weather analysis, aircraft performance, communications and radar procedures, use of specialized charts and publications, en route approach and departure procedures, applicable federal aviation regulations, psychological factors affecting pilot performance, and extensive use of flight computers in flight planning. Students will have an opportunity to practice procedures on a flight-deck simulator. The instructor is FAA certified.

Weather to Fly

Ten sessions, Tuesdays and Thursdays, beginning Sept. 21; 6:30-8:10 p.m.
\$99 for Members
\$110 for non-Members

This new course is not for pilots only but for anyone interested in flying, its safety, and what goes on in the cockpit while flying in bad weather. Designed for the curious and the concerned, the course explains maintenance inspections, weather briefings, and airplane sounds and sensations. Students will be assured of a more pleasant flight when next they fly. The class meets on Tuesdays and Thursdays for five weeks.

NAVIGATION: BASIC COURSE

Navigation in Coastal Waters

Eight Mondays, beginning Sept. 20; 6:30-9:00 p.m.
\$99 for Members
\$110 for non-Members

An introduction to piloting

and dead reckoning for present and prospective owners of small boats. The course provides practical chartwork and includes such topics as the compass, bearings, fixes, buoys and lighthouses, the running fix, current vectors and tides, and rules of the nautical road. Boating safety is emphasized. No prerequisites. Students are required to purchase an equipment kit.

NAVIGATION: INTERMEDIATE COURSES

Introduction to Celestial Navigation

Ten Thursdays, beginning Sept. 23; 6:30-8:40 p.m.
\$99 for Members
\$110 for non-Members

This course is for those who have completed *Navigation in Coastal Waters* or who have equivalent piloting experience. The course covers the theory and practice of celestial navigation, the sextant and its use, and the complete solution for a line of position. Problem-solving and chartwork are emphasized. Students are required to purchase a copy of *Sight-Reduction Tables for Marine Navigation, Volume 3* (Pub. No. 229).

Astronomy for Celestial Navigators

Eight Wednesdays, beginning Sept. 22; 6:30-8:40 p.m.
\$85.50 for Members
\$95 for non-Members

This new course is designed for students who are already familiar with navigating by the stars but want to know more about the astronomy that makes it work. Topics include systems of celestial coordinates and the navigational triangle; the absolute motions and distances of the navigational stars, planets, and the moon; the motions of the earth in the solar system, planetary and lunar configurations as observed from earth; and many other subjects.

Courses for Stargazers

I would like to register for the following Planetarium course(s):

Name of course: _____
Price: _____ (Please note that discount prices apply only to Participating and Higher Members.)

Class beginning: _____

Name: _____

Address: _____

City: _____ State: _____ Zip: _____

Daytime telephone: _____

Membership category: _____

Please mail this coupon with your check payable to the American Museum-Hayden Planetarium to: Courses for Stargazers, Hayden Planetarium, Central Park West and 81st Street, New York NY 10024-5192. Registration by mail is strongly recommended and is accepted until seven days preceding the first class. For additional information, call (212) 769-5900. Monday-Friday, 9:30 a.m.-4:30 p.m. No credit cards accepted. Do not include ticket requests or checks for American Museum programs.

Happenings at the Hayden

Sky Show

Orion Rendezvous...A Star Trek® Voyage of Discovery

Climb aboard the starship *Antares* for a cosmic journey. Actor LeVar Burton joins the crew as Lieutenant Commander Geordi La Forge, the character he plays on *Star Trek: The Next Generation*. Enter the twenty-fourth century and journey to a place where six suns blaze in the sky, and then voyage to a sun 100 million times bigger than our own. Discover where stars are born and explore the galactic graveyard of a star that died in one of the most powerful explosions in the universe. Space enthusiasts and *Star Trek* fans alike will know that they have gone where no planetarium audience has gone before.

Showtimes:
 Mon.-Fri. 1:30 and 3:30 p.m.
 Sat. & Sun. 1:00, 2:00, 3:00, and 4:00 p.m.
 Admission to the Sky Show for Participating and Higher Members is \$6 for adults and \$3.50 for children ages 2 to 12. Prices and schedule subject to change without notice. For non-Members' prices and additional information, call (212) 769-5100.

Exhibition

Star Trek® Exhibition: A Retrospective of the Sixties

Alien costumes, starfleet uniforms, *Enterprise* models, and assorted props and photos from Paramount's original 1960s television series are on display in a special exhibition curated by the National Air and Space Museum. Explore the historical, political, social, and cultural themes incorporated into the weekly *Star Trek*® series. For information call (212) 769-5100.

Lecture

Frontiers in Astronomy and Astrophysics

On Monday, October 25, at 7:30 p.m., Thomas Bania of Boston University will present an illustrated talk, "The First 100 Seconds in the Life of the Universe." Bania will discuss how probing the strange happenings at the beginning of time and space may help us to understand the nature and fate of the universe.

This lecture is part of the *Frontiers in Astronomy and Astrophysics* series. Tickets are \$6 for Participating and Higher Members and \$8 for non-Members. Use the coupon at right to order tickets, and for information about ticket availability and upcoming lectures call (212) 769-5900.

Children's Shows

Wonderful Sky is a special Sky Show for preschoolers. Children sing along with images of their favorite Sesame Street Muppets as they learn about rainbows, the phases of the moon, sunsets, and stars. Sat., Oct. 2, at 10:30 and 11:45 a.m., and Sat., Nov. 6, at 10:30 a.m. Admission for Participating and Higher Members is \$6 for adults and \$3.50 for children.

Shows usually sell out in advance; reservations, by mail only, are necessary. Make your check payable to the Hayden Planetarium (Attn: *Wonderful Sky*, Central Park West at 81st Street, New York, NY 10024), indicate membership category and a first and second choice of showtimes, and include a self-addressed, stamped envelope and your daytime phone number. For additional information, call (212) 769-5900.

Robots in Space features Lucasfilm's R2D2 and C-3PO™ and has been created especially for children ages 7 to 12. Together with a live host, these famous space robots take children on a tour of the universe. See how satellites and probes — the real space robots — help us learn about worlds near and far. Journey from the earth to other planets and distant black holes. Sat., Nov. 6, at 11:45 a.m. Admission for Participating and Higher Members is \$4 for adults and \$2 for children. For additional information, call (212) 769-5900.

Laser Shows

Journey into another dimension where laser visuals and rock music combine to create a dazzling 3-D experience of sight and sound. Shows are presented on Fridays and Saturdays at 7:00, 8:30, and 10:00 p.m. For prices and show schedule, telephone (212) 769-5100.

It's always a good idea to call before visiting the Planetarium, since prices, programs, and showtimes are subject to change without notice. For general Planetarium information, call (212) 769-5920 or (212) 769-5100.

Lecture: "The First 100 Seconds in the Life of the Universe." Monday, October 25, 7:30 p.m.

Number of Members' tickets at \$6 (no more than 4, please): _____
 Number of non-Members' tickets at \$8: _____
 Total amount enclosed: _____

Name: _____

Address: _____

City: _____ State: _____ Zip: _____

Daytime telephone: _____

Membership category: _____

Please make check payable to the Hayden Planetarium and mail with a self-addressed, stamped envelope to: Lecture, Hayden Planetarium, Central Park West at 81st Street, New York, NY 10024-5192

Please note that ticket orders are subject to availability and cannot be processed without telephone number and stamped, self-addressed envelope. Do not include ticket requests or checks for American Museum programs.

Museum Notes

Hours

Exhibition Halls

Mon.-Thurs. & Sun. 10:00 a.m.-5:45 p.m.
 Fri. & Sat. 10:00 a.m.-8:45 p.m.

The Museum Shop

Mon.-Thurs. & Sun. 10:00 a.m.-5:45 p.m.
 Fri. & Sat. 10:00 a.m.-7:45 p.m.

The Junior Shop

Mon.-Fri. 10:00 a.m.-4:45 p.m.
 Sat. & Sun. 10:00 a.m.-5:45 p.m.

The Museum Library

Tues.-Fri. 11:00 a.m.-4:00 p.m.

Diner Saurus Fast Service Eatery

Daily 11:00 a.m.-4:45 p.m.

Garden Cafe

Reservations: (212) 769-5865

Lunch: Mon.-Fri. 11:30 a.m.-3:30 p.m.

Dinner: Fri. & Sat. 5:30-7:30 p.m.

Brunch: Sat. & Sun. 11:00 a.m.-4:00 p.m.

Whale's Lair

Fri. 3:00-8:00 p.m.

Sat. Noon-8:00 p.m.

Sun. & most holidays Noon-5:00 p.m.

Snack Carts (at 77th Street & on the first floor of the Roosevelt Memorial Hall)

Sat. & Sun. 11:00 a.m.-4:00 p.m.

The Discovery Room

Closed in September; re-opens October 2.

The Natural Science Center

Closed in September; re-opens October 1.

Entrances

During Museum hours visitors can enter the building through the 77th Street entrance, the parking lot entrance (81st Street), or the Roosevelt Memorial Hall entrance (79th Street and

Central Park West). Visitors attending programs after hours can enter the building through the driveway entrance at 79th Street and Central Park West.

Naturemax

The Naturemax Theater presents Antarctica, a thrilling exploration of the highest, driest, coldest, and most mysterious continent on earth.

Showtimes for Antarctica are 10:30 and 11:30 a.m., 1:30 and 3:30 p.m. daily. Tropical Rain Forest, which portrays the 400-million-year evolution of these vanishing resources, is shown at 12:30, 2:30, and 4:30 p.m.

On Friday and Saturday at 6:00 and 7:30 p.m., Antarctica is shown on a double bill with Tropical Rain Forest. Schedules and prices are subject to change without notice. Call (212) 769-5650 for further information.

Admission (Participating and Higher Members):

Adults: \$4 single feature; \$5.50 double feature

Children: \$2 single feature; \$3 double feature

Birthday Parties

Theme parties for young Members 5-10 years old are two hours long and held at 3:30 p.m. on Wednesdays, at 4:00 p.m. on Fridays, and at 11:00 a.m. or 2:30 p.m. on weekends. The group should be no fewer than 10 and no more than 20. The fee is \$275 plus \$15 per child. (The cost includes all materials, juice, ice cream, and favor bags. The cake is not included.) Call (212) 769-5606 for further information.

Parking

The Museum's parking lot is located on 81st Street between Central Park West and Columbus Avenue. Space is limited and available on a first come, first-served basis; fees are \$12 for cars and \$11 for buses. The lot is open from 9:30 a.m. to 9:30 p.m. on Sunday through Thursday and from

9:30 a.m. to midnight on Friday and Saturday.

Call the Membership Office at (212) 769-5606 for information about alternative parking.

Museum Tours

Free Museum Highlights Tours are available to individuals and families. Tours are conducted daily at 10:15 and 11:15 a.m., 1:15, 2:15, and 3:15 p.m. Free Spotlight Tours are also available to individuals and families. See page 16 for further information.

Group Tours are available for a fee. All Group Tours must be scheduled through the Volunteer Office. For details, call (212) 769-5566.

Discover

Explore our
**Naturemax
 Dinner Theater Package**

See our latest feature

Antarctica

Includes a complete dinner entree,
 appetizer or dessert and coffee

per person **\$21.00**

Hours

Lunch, Mon.-Fri. 11:30-3:30

Saturday and Sunday Brunch: 11:00-4:00

Dinner seating, Fri. Sat. 5:00-7:30

For Reservations call 212 769 5865

GARDEN CAFE

Sun Mon Tue Wed Thu Fri Sat

September 1993

American Museum of Natural History

5 Labor Day. The Museum is open.

Spotlight Tours

The Volunteer Office offers a series of free Spotlight Tours, which are conducted by professionally trained Volunteer Highlights Tour guides. The tours are listed throughout the calendar, and topics are subject to change. For additional information about the tours, which depart from the second floor between the Roosevelt Rotunda and the Hall of African Mammals, call (212) 769-5566.

1 7:00 p.m. Biosphere 2: The Human Experiment. Members' evening program. Kaufmann Theater. \$8 for Members, \$12 for non-Members. Page 5.

2 1:45 p.m. Spotlight Tour: Siberia. Free.

3

4



10 7:00 p.m. Members' Trip to Block Island. Tickets required. Page 2.

11 3:45 p.m. Spotlight Tour: Native American Cultures. Free.



14 12:45 p.m. Spotlight Tour: Dog Lovers' Tour. Free. 7:00 p.m. Ghosts of Cape Horn and Whales Weep Not. Members' evening with James Donaldson. Kaufmann Theater. Free for Members, \$8 for non-Members. Page 2. 7:30 p.m. Linnaean Society of NY. Linder Theater. Free.

15 1:45 p.m. Spotlight Tour: Pre-Columbian Treasures. Free.

Rosh Hashanah begins at sundown.



17

18 1:45 p.m. Spotlight Tour: Evolution. Free.

19 10:30 a.m. and 1:30 p.m. USS Enterprise Retrofit. Members' adult-child workshop. Tickets required. Page 5.

20 2:45 p.m. Spotlight Tour: Art Museum? Museum Art? Free.

21



22 5:30 p.m. Under-standing Geology. Members' workshop (part 1 of 2). Tickets required. Page 4.

23 2:45 p.m. Spotlight Tour: Meteorites. Free.

7:00 p.m. Strange New Worlds: Star Trek and the Sixties. Members' evening program. Kaufmann Theater. \$6 for Members, \$9 for non-Members. Page 1.

24 Yom Kippur begins at sundown.

25 11:00 a.m. NY Map Society. Room 319. Free.

Learn and Teach Origami

In these special classes for volunteers, origami specialist Michael Shall will instruct beginners in the art of folding. Students start with simple models like the swan, sailboat, and jumping frog and progress to more complicated models like the flapping bird and omega star.

The sessions will be conducted from 6:30 to 8:30 p.m. on six Wednesdays: September 8, 22, and 29, October 6, 13, and 20.

Please note that the classes are progressive; each lesson builds upon teachings from the previous class.

The classes are free, with all materials provided. In exchange, students are expected to repay the 12 class hours as origami volunteers, helping teach at the annual Origami Holiday Tree as well as the spring and summer origami tables. The teaching tables are staffed at all times during Museum hours in the holiday season, including weekends and evenings.

To register for the origami classes for volunteers, please call (212) 769-5566.

Too Much Mail?

The Membership Office recently mailed a letter to prospective Members asking them to join the Museum. In spite of our best efforts to remove the names of our current Members from this mailing, you may have received one of these letters. Please accept our apology. Would you consider passing the letter on to a friend? Your help in reaching new Members is greatly appreciated.

26 2:00 p.m. NY Shell Club. Blum Lecture Room. Free. 2:00 p.m. NY Paleontological Society. Room 319. Free.

28 7:30 p.m. Linnaean Society of NY. Linder Theater. Free.

29 5:30 p.m. Under-standing Geology. Members' workshop (part 2 of 2). Tickets required. Page 4.

30 7:00 p.m. From Parlor to Politics. Members' evening program. Kaufmann Theater. \$6 for Members, \$9 for non-Members. Page 3. 7:30 p.m. Microscopical Society. Room 319. Free.

POTUNDA

For Participating and Higher Members of the American Museum of Natural History

Vol. 18, No. 9 October 1993



A new exhibition recaptures the natural wonders of Antarctica and traces the history of human explorations of the continent.



Antarctica

Exhibition opens in Gallery 3 on October 22

Members' preview:
Wednesday, October 20, 4:00–7:00 p.m.,
and private viewing at Naturemax, 7:30 p.m.

The world's greatest mysteries lie at the bottom of the globe. Until 1821 no one had ever seen Antarctica, and it took over a century for a few determined explorers, pioneers, and scientists to truly put Terra Australis Incognita (the Unknown Southern Land) on the map. Nobody owns Antarctica — it is not a country or a province or a territory, and there are no natives. Everyone who visits is a foreigner, and the nations that undertake scientific work there act jointly to oversee all the continent's activities.

And what have they found? The new exhibition *Antarctica* profiles the region's wildlife and its human visitors, revealing the effects humans have had on the global environment and the scientific, political, and economic choices that will shape Antarctica's future. Exhibits include penguin dioramas, a mummified seal, video programs, three-dimensional models of ice features, and tools used by people who have lived and worked on the continent.

Members can attend a preview of

the exhibition on Wednesday, October 20, from 4:00 to 7:00 p.m. At 7:30 p.m. there will be a special showing of the Naturemax film *Antarctica*. The continent's icy expanses are dramatically recaptured on the Naturemax Theater's four-story-high, 66-foot-wide screen in the IMAX format, which uses film ten times the size of conventional 35mm film. Viewers take a spectacular ride through icy chasms and over towering glacial peaks and dive through six feet of ice to explore the underwater cav-

erns of a glacier. Sidney Horenstein, the Museum's coordinator of environmental public programs and resident curator for the exhibition, will offer a ten-minute introduction and slide show before the film, which is 42 minutes long.

The preview is free and open only to Participating and Higher Members; your valid membership card is your ticket of admission. Tickets for the private viewing at Naturemax are \$5, use the October Members' programs coupon on page 3 to order tickets.

Ghost Stories

Friday, October 29
Kaufmann Theater
Family program (ages 5-12): 6:00 p.m.
\$5 for Members, \$8 for non-Members
Adults' program: 8:00 p.m.
\$8 for Members, \$12 for non-Members

Legends, myths, and true-life adventures are the fabric from which storyteller Laura Simms weaves her tales of enchantment. She's been among the Museum's most popular performers since 1968, and her Halloween shows are a longstanding Museum tradition.

One of America's foremost

performers and students of world folklore, Simms has been hailed as a major force in the renaissance of storytelling in the United States. She has developed a vast repertoire of traditional tales from Africa, Asia, Europe, and the Americas, many of which she heard from Tibetan Buddhist lamas, Maori elders,

and Native American storytellers as well as classical and modern Western theater artists. Through careful adaptation and interpretation, Simms conveys the timeless beauty and meaning of these stories.

Use the October Members' programs coupon on page 3 to register for the programs.

Members' Rug-Hooking Workshops

Fridays, October 15 and 22

Get hooked on a new hobby with June Myles, who'll show you how to create one-of-a-kind collectibles, from pillows to room-size rugs. At this two-part workshop you'll start with a very small project, and we'll provide all the materials (except the scissors) to complete it. In the first session you'll learn the basics and then you'll

learn a variety of techniques to finish the piece.

The workshops will take place on two Fridays, October 15 and 22, from 6:30 to 8:00 p.m. Tickets are \$40 and available only to Participating and Higher Members ages 16 and older. Use the coupon on page 5 to register, and please note that tickets are available only by mail.

DNA Analysis

Thursday, October 14

Museum scientists made history recently when they extracted some of the oldest DNA ever recovered from a fossil. A 30-million-year-old termite encased in amber was their subject, and they amplified and sequenced its DNA. (No, they have no plans to use their findings to resurrect dinosaurs.)

Assistant curator Ward Wheeler will discuss this project and others currently under way in the Museum's Molecular Systematics Laboratory. He'll describe the lab, where researchers study the DNA of living and extinct animals to trace patterns of evolution, and talk about the ways in which Museum re-

searchers from different disciplines are working together to refine and redefine concepts of evolutionary history.

The program will take place on Thursday, October 14, at 7:00 p.m. in the Kaufmann Theater. Tickets are free for Members and \$8 for non-Members; use the coupon on page 3 to register.

War of the Worlds

Saturday, October 23

On the night before Halloween in 1938 thousands of horrified Americans listened to an account of a Martian invasion in which aliens landed in New Jersey and annihilated everything in their path. Their panic arose from Orson Welles' all-too-realistic radio broadcast of the H. G. Wells science-fiction thriller *War of the Worlds*.

Brian Sullivan, the Planetarium's designer of special

effects, will commemorate the notorious event with a screening of 1953's *War of the Worlds*. Sullivan will introduce the film, which won an Oscar for best special effects, and answer questions afterward. The show will take place on Saturday, October 23, at 4:00 p.m. in the Linder Theater. Use the coupon on page 3 to order tickets, which are \$6 for Members and \$9 for non-Members.

Members' Day Trip to Hawk Mountain

Saturday, October 16

Join naturalist Stephen C. Quinn, a Museum authority on birds, for an autumn day of birdwatching at Pennsylvania's Hawk Mountain in the eastern Appalachians. Thousands of migrating hawks and other birds of prey pass

through the area after leaving their breeding grounds in Canada and the northern states, and participants will hike around the mountain to observe the raptors.

The trip will take place on Saturday, October 16, from

7:00 a.m. to 7:00 p.m. Tickets are \$60 and available only to Participating and Higher Members ages 13 and up. Use the coupon on page 5 to register, and please note that tickets are available only by mail.

Hudson River Cruise

Saturday, October 2

Cruise up to West Point and back aboard a catamaran for magnificent views of the Hudson Highlands' fall foliage. Sidney Horenstein, the Museum's coordinator of environmental public programs, will point out highlights of the landscape and aspects of geological interest, and William Schuster, the director of the Black Rock Forest Consortium, will talk

about local plant life and the relationship of Black Rock Forest to the rest of the Hudson Highlands.

The trip will take place on Saturday, October 2, from noon to 4:00 p.m. Tickets are \$50 for Members and \$60 for non-Members and available only to participants ages 13 and older. Call (212) 769-5606 for information about ticket availability.

Forbidden Journey

The Life of Alexandra David-Neel

Sunday, October 24

Explorer, opera singer, feminist, and internationally acclaimed writer — Alexandra David-Neel led a life filled with adventure, honor, intrigue, and fame. The French author is perhaps best known for her 1924 expedition to Lhasa, Tibet, when she disguised herself as a beggar to become the first foreign

woman ever to enter the forbidden city.

Barbara Foster, an assistant professor at Hunter College, and her husband, Michael Foster, will present a lively account of David-Neel's life at a special Members' program. The Fosters are the authors of David-Neel's biography, *Forbidden Journey*

(Harper/San Francisco, 1989), and their presentation on Sunday, October 24, will coincide with the 125th anniversary of David-Neel's birth. The program will start at 3:00 p.m. in the Kaufmann Theater. Tickets are \$6 for Members and \$9 for non-Members. Use the coupon on page 3 to register.

Behind-the-Scenes Tours of the

Department of Herpetology and Ichthyology

Saturday, October 30, and Thursday, November 4

Museum scientists will show Members some of the institution's collections of fishes, amphibians, and reptiles, and they'll talk about how these specimens are gathered in the field and prepared for the collections. Participants will visit laboratories and other areas in the Department of Herpetology and Ichthyology

to hear about the use of dermestid beetles in preparing skeletons and the value of alcohol-preserved specimens. They'll use microscopes to take a close-up look at specimens and observe live displays of some of the Museum's resident fish.

The tours, which last about one hour, will take place on

Saturday, October 30, between 10:00 a.m. and 4:00 p.m. and Thursday, November 4, from 5:00 to 9:00 p.m. Tickets are \$12 and available only to Participating and Higher Members ages 13 and older. Use the coupon on page 3 to register for tours, which have limited availability.

ROTUNDA

ISSN 0194-6110

Vol. 18, No. 9
 October 1993

Donna Bell — Editor
 Sheila Greenberg — Manager of Membership Services
 Angela Soccodato — Designer
 Rita Campon — Copy Editor
 Peter Zelaya — Fulfillment Coordinator
 Risa Miller — Program Coordinator

Rotunda, a publication for Participating and Higher Members of the American Museum of Natural History, is published monthly September through June, bimonthly July and August. Publication offices are at *Natural History* magazine, American Museum of Natural History, Central Park West at 79th Street, New York, NY 10024-5192. Telephone: (212) 769-5606. Subscriptions: \$50 a year for Participating Membership; \$100 a year for Contributor Membership. © 1993 American Museum of Natural History. Second-class postage paid at New York, NY. Postmaster: Please send address changes to: *Rotunda*, Membership Office, American Museum of Natural History, Central Park West at 79th Street, New York, NY 10024-5192.

Printed by Waldon Press, Inc. New York



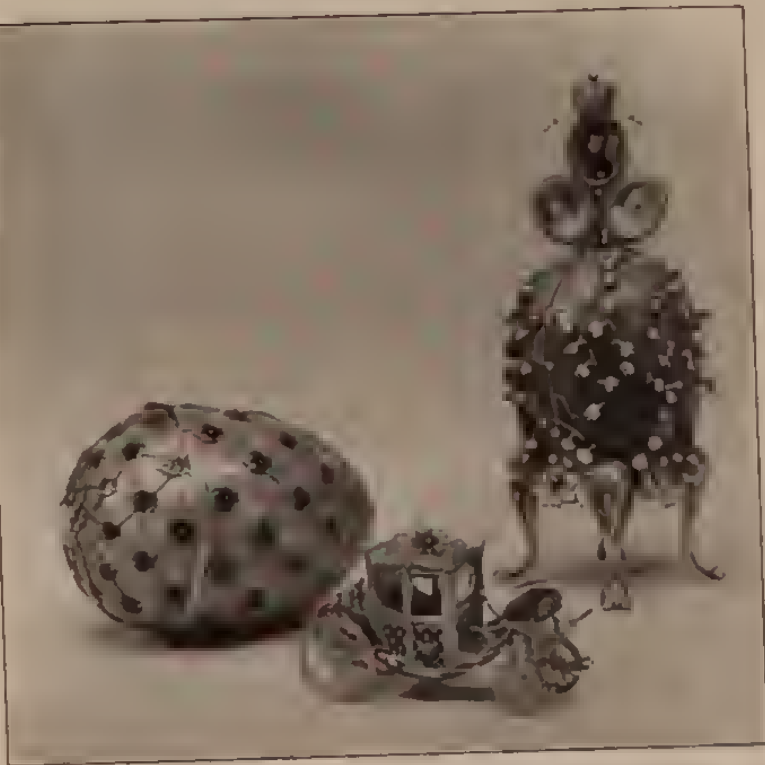
The Forbes Magazine Collection of Fabergé

Tuesday, November 23
7:00 p.m.
Kaufmann Theater
\$6 for Members, \$9 for non-Members

A third-generation Russian of French descent, Peter Carl Fabergé (1846-1920) catered to the appetites of the wealthy for unusual jewelry and luxury items. He is perhaps best known for his Imperial Easter Eggs, created for the last two czars.

An even dozen of the eggs — two more than those of the Kremlin's Armory Museum — are among the objets d'art in the Forbes magazine's collection of Fabergé, much of which is on permanent display at the Forbes Magazine Galleries in New York City. The collection was started in the 1960s by publisher Malcolm Forbes and consists of an assortment of Fabergé boxes, frames, clocks, and fantasies.

Mary Ellen Sinko, curator of the Forbes magazine collection, will give an illustrated lecture on the Fabergé treasures. She'll discuss the collection's beginnings, the



Coronation Egg (left) holds a replica of the Czarina's coach and Lilies of the Valley Egg contains miniatures of the Czar and daughters.

history of the House of Fabergé, and the role of imperial patronage in Fabergé's career. She'll describe highlights from the collection that exemplify the variety of tech-

niques used by the court jeweler and the techniques of his workmasters.

To register, please use the October Members' programs coupon.

The Forbes Magazine Collection, New York

October Members' Programs Coupon

Name: _____

Address: _____

City: _____ State: _____ Zip: _____

Daytime telephone: _____

Membership category: _____

Total amount enclosed: _____

Please make check (if applicable) payable to the American Museum of Natural History and mail with a **self-addressed, stamped envelope** to: October Members' Programs, Membership Office, American Museum of Natural History, Central Park West at 79th Street, New York, NY 10024-5192. **Telephone reservations are not accepted. No refunds or exchanges.**

Unless otherwise indicated, no more than eight tickets may be ordered for a program. Participating Members are entitled to four tickets per program at the Members' price. Higher Members are entitled to six tickets, and Associate Members are entitled to one ticket.

DNA Analysis. Thursday, October 14, 7:00 p.m.

Number of free Members' tickets _____

(no more than 2, please): _____

Number of additional Members' tickets at \$5: _____

Number of non-Members' tickets at \$8: _____

Total amount enclosed for program: _____

Members' private viewing of Antarctica

Wednesday, October 20, 7:30 p.m.

Number of Members' tickets at \$5: _____

Total amount enclosed for program: _____

War of the Worlds. Saturday, October 23, 4:00 p.m.

Number of Members' tickets at \$6: _____

Number of additional tickets at \$9: _____

Total amount enclosed for program: _____

Forbidden Journey. Sunday, October 24, 3:00 p.m.

Number of Members' tickets at \$6: _____

Number of additional tickets at \$9: _____

Total amount enclosed for program: _____

Ghost Stories. Friday, October 29

Family program, 6:00 p.m.

Number of Members' tickets at \$5: _____

Number of additional tickets at \$8: _____

Total amount enclosed for program: _____

Adults' program, 8:00 p.m.

Number of Members' tickets at \$8: _____

Number of additional tickets at \$12: _____

Total amount enclosed for program: _____

Chemistry for Kids. Saturday, November 6.

Please indicate a first, second, and third choice of times.

____ 11:00 a.m. ____ 1:00 p.m. ____ 3:00 p.m.

Number of Members' tickets at \$6: _____

Number of additional tickets at \$10: _____

Total amount enclosed for program: _____

Members' private viewing of Star Trek

Tuesday, November 9, 6:00 p.m.

Number of Members' tickets at \$7: _____

Total amount enclosed for program: _____

The Forbes Magazine Collection of Fabergé

Tuesday, November 23, 7:00 p.m.

Number of Members' tickets at \$6: _____

Number of additional tickets at \$9: _____

Total amount enclosed for program: _____

Gorillas in the Mist. Tuesday, November 30, 7:00 p.m.

Number of Members' tickets at \$8: _____

Number of additional tickets at \$12: _____

Total amount enclosed for program: _____

Behind-the-Scenes Tours of the Department of Herpetology and Ichthyology. \$12, and open only to Participating and Higher Members. Tours will leave at 15-minute intervals and last about an hour. We will send you confirmation by mail indicating the exact time your tour will start. Please indicate a first, second, and third choice.

____ Saturday, October 30, between 10:30 a.m. and noon

____ Saturday, October 30, between 1:15 and 2:30 p.m.

____ Thursday, November 4, between 5:00 and 5:45 p.m.

____ Thursday, November 4, between 6:30 and 7:30 p.m.

Number of tickets at \$12: _____

Total amount enclosed for program: _____

NOTE: Orders received less than ten days before show dates will be held for pick-up at the door on the day of the program if tickets are still available. If an event is sold out, you will be advised in writing or by phone and your check will be returned. Babies in arms or strollers will not be admitted to programs.

Chemistry for Kids

Saturday, November 6
11:00 a.m., 1:00 and 3:00 p.m.
Kaufmann Theater
\$6 for Members, \$10 for non-Members
Ages 5-12
All attendees must have tickets

Young Members will see onstage chemical magic and then create some of their own at the eighth annual presentation of *Chemistry for Kids*. Patricia Ann Redden will demonstrate some fabulous chemical transformations in the Kaufmann Theater — demonstrations that are designed to excite young people with the possibilities offered by the study of science.

Then kids will go to the Edith C. Blum Lecture Room

to conduct safe, easy-to-understand experiments of their own under adult supervision. Those who complete the lab session will earn a Junior Chemist certificate issued by the American Chemical Society's New York Section and the American Museum. Participants who successfully complete a chemistry quiz based on Museum exhibits can win prizes.

Redden is a professor of chemistry and departmental chairperson at Saint Peter's

College in Jersey City. She has had many years of teaching experience at all grade levels and frequently addresses high school and college science classes in the New York area.

Chemistry for Kids is presented in conjunction with the American Chemical Society's observation of National Chemistry Week. Use the October Members' programs coupon to register, and please note that both children and adults must have tickets.

Field Class in Bird ID in Central Park

Tuesdays, 7:00-9:00 a.m.
October 5, 12, 19, and 26

Thursdays, 9:00-11:00 a.m.
October 7, 14, 21, and 28

Join naturalists Stephen C. Quinn (on Tuesday) and Harold Feinberg (on Thursday) in observing the fall migration of birds through Central Park. Participants will learn how to identify species

according to their field marks, habitat, behavior, and song.

The fee for the program is \$5, to be paid to the instructor each morning before the walk starts. There is no pre-registration. Classes meet

across from the Museum on the northeast corner of Central Park West and 77th Street.

For further information call the Education Department at (212) 769-5310.

Gorillas in the Mist: The True Story

Tuesday, November 30
7:00 p.m.
Main Auditorium
\$8 for Members, \$12 for non-Members



Redmand grooming Pabla, a young silverback. The two have known each other since Pabla's infancy.

Before they met Dian Fossey, Rwanda's mountain gorillas knew their cousins from the genus *Homo* almost solely as killers and habitat destroyers. Fossey's two decades of study and conservation among the gorillas ended with her 1985 murder. Ian Redmond, a longtime colleague and friend of Fossey's, will talk with Members about her life, her philosophy of conservation, and the fu-

ture of the 250 remaining great apes — the friends that she almost certainly saved from extinction.

Fossey began her fieldwork in 1967 with the establishment of the Karisoke Research Centre in the Virunga Volcanoes region of Rwanda. All previous gorilla studies had been made at a distance, since at close quarters gorillas are afraid of humans (and vice versa). Her

greatest breakthrough came with her understanding of gorilla etiquette: by imitating their feeding and contentment vocalizations, grooming herself, and keeping a low profile (while ignoring any bluff charges from the group leader), she came to be accepted by the gorillas as a harmless presence. Once relaxed, the study groups revealed many aspects of their daily behavior that had eluded other observers. The most fascinating results came in the long term as the life histories of individual gorillas unfolded.

A wildlife biologist, photographer, and writer, Redmond has studied cave elephants in Kenya and reptiles and amphibians in Papua New Guinea. He introduced David Attenborough to a gorilla family during the filming of a memorable *Life on Earth* episode and taught Sigourney Weaver how to grunt like a gorilla for her 1987 portrait of Fossey in a film biography.

Redmond worked at Karisoke as Fossey's research assistant from 1976 to 1978; in 1980 he worked for the Mountain Gorilla Project and in the following year he took part in a census of the Virunga gorillas. His Members' program will feature reminiscences of his work with Fossey and review conservation successes and failures in the region, including a discussion of the effects of Rwanda's civil war.

Use the coupon on page 5 to register for the program.

Members' Day Trip to the

Shinnecock Reservation

Saturday, November 13
9:00 a.m.-6:00 p.m.
\$50, and open only to Participating and Higher Members
Ages 13 and up

After the arrival of English colonists on Long Island local Indians were quickly displaced and many tribes, such as the Corchaugs on the island's North Fork, simply disappeared. The Shinnecock Indians endured, and today about 200 of their descendants occupy a wooded tract of land on Shinnecock Bay in

Southampton Village. Members can observe the ways in which the Shinnecock have kept their culture alive on a tour of their reservation.

Participants will travel by bus from the Museum to the reservation. A guide will welcome visitors and introduce the reservation and its history with tours of the community

center and church. A member of the tribe will discuss Shinnecock culture and answer questions. Afterward, Members will be served a meal that features foods popular among native peoples.

Use the coupon on page 5 to register, and please note that tickets are available only by mail.

Members' Walking Tour of

Van Cortlandt Park

Sunday, November 7
10:30 a.m., noon, and 1:30 p.m.
\$16, and open only to Participating and Higher Members
Ages 13 and up

Geologist Sidney Horenstein will accompany Members on an exploration of one of the city's biggest recreation areas. Horenstein, the Museum's coordinator of environmental public programs, will point out some of Van Cortlandt Park's historical features and describe how its

geological formations influence the park's topography.

Participants will stroll along part of the Putnam division's now-abandoned railroad line, observe the exterior of the 1748 Van Cortlandt mansion, and climb to the top of Vault Hill to see where some of New York City's docu-

ments were hidden from British invaders during the Revolutionary War. Horenstein will talk with Members about the origins of the park's lake and those of the park's mystery monuments.

Use the coupon on page 5 to order tickets, which are available only by mail order.

Members' Private Viewing

Star Trek® Exhibition

Tuesday, November 9
6:00 p.m. Exhibition Viewing
7:00 p.m. Sky Show
\$7, and open only to Participating and Higher Members

Millions of viewers all over the planet have enjoyed the original *Star Trek*® television series since its 1966 premiere. The images of Captain Kirk (William Shatner), Mr. Spock (Leonard Nimoy), Lieutenant Uhura (Nichelle Nichols), and other crewmembers of the USS *Enterprise* are more familiar to fans than those of actual astronauts.

Trekkers can satisfy their appetites for nostalgia at the Hayden Planetarium, where the *Star Trek*® Retrospective Exhibition is on display. The exhibition, which was coordinated by the National Air and Space Museum, features Starfleet uniforms, annotated scripts, and other props from the show. The exhibits are organized thematically, exploring the ways in which the series reflected American sensibilities in the 1960s.

Members can attend a private viewing of the exhibition followed by a special showing of the current Sky Show, *Orion Rendezvous: A Star Trek® Voyage of Discovery*. Actor LeVar Burton — alias Lieutenant Commander Geordi La Forge of *Star Trek®: The Next Generation* — narrates a cosmic journey into the twenty-fourth century in which viewers observe places where six suns blaze and explore where stars are born and die.

The Planetarium will open at 6:00 p.m. on Tuesday, November 9, for the Members' viewing of the exhibition. The Sky Show will start at 7:00 p.m., and afterward the exhibition will remain open until everyone has had the opportunity to see it. Use the October Members' programs coupon on page 3 to register.

Dino-Mite Dinner Deal!

Prime Rib Dinner
with potatoes and vegetables
\$10⁹⁵

Every Friday and Saturday, 5:00-7:30 pm

Naturemax Dinner Theater Package
Includes a complete dinner entree,
appetizer or dessert and coffee, per person **\$21⁰⁰**

Hours

Lunch, Mon.-Fri: 11:30 - 3:30

Saturday and Sunday Brunch: 11:00 - 4:00

Dinner seating, Fri.-Sat: 5:00 - 7:30

For Reservations call 212-874-3436



Members' Adult-Child Workshop

Feast of Clay

Sunday, November 21
10:30 a.m.-noon and 1:30-3:00 p.m.
\$26 per couple, and open only to Participating and Higher Members
Ages 5-9

The pilgrims celebrated their first harvest with a banquet, and we commemorate their Thanksgiving every year with turkey and all the trimmings. This year you can delight your family and friends with table ornaments of your own creation. Like the pilgrims, you'll be working with a product from the earth: self-hardening clay.

Join June Myles to fashion

individual favors for your guests, seasonal candle holders, or a centerpiece for the table. If you're not cooking this year, perhaps your taste will run toward a whimsical plate of leftovers (guaranteed fat- and salt-free and definitely noncaloric).

Use the coupon on page 5 to register, and please note that tickets are available only by mail.

Members' Guided Tours of

Antarctica

Friday, November 12
4:00, 5:30, and 7:00 p.m.
Free, and open only to Participating and Higher Members



Members can explore the new Gallery 3 exhibition in the company of professionally trained Volunteer Highlights Tour guides, who'll discuss Antarctica's fascinating displays, from explorations of the region's atmospheric phenomena to its role in global warming. Participants will also view some of the Museum's permanent exhibitions that relate to the continent.

The tours last about an hour and are not recommended for children under 13. Use the coupon below to register, and please note that tickets are available only by mail.



Antarctica Expedition

From January 3 through 25, Discovery Cruises will follow in the wake of early explorers and adventurers on one of its most exciting natural history adventures to date: *Icebreaker Expedition to Antarctica and South Georgia Island*.

This will be Discovery Cruises' eighth journey to Antarctica. Tourists will cruise the ice-choked channels of the Antarctic Peninsula as they head south of the Antarctic Circle to Stonington

Island, home of the first US research base on the continent. They'll spend several days in the Weddell Sea, looking for the rarely seen emperor penguin. Other highlights include stops at the South Orkney Islands, South Georgia and its impressive concentration of seals, penguins, and four species of albatross, and the Falklands.

The powerful, polar-class icebreaker *Kapitan Khlebnikov* will take participants to places that are seldom visited

by passenger expeditions. The two on-board helicopters permit access to remote island destinations and allow aerial surveys of icebergs and glaciers. A fleet of Zodiac landing craft can quickly put passengers ashore wherever there is open water, and an extraordinary team of Museum lecturers and naturalists will provide an in-depth educational program.

For further information, call (212) 769-5700 (outside New York State: 800-462-8687).

Antarctica Lecture Series

Five Wednesdays, starting October 27
7:00-8:00 p.m.
Kaufmann Theater
Series tickets: \$20 for Members,
\$25 for non-Members

American Museum scientists who have been to Antarctica will discuss the continent at a series of slide-illustrated lectures. They'll discuss glaciers and climate changes, penguins and other birds, dinosaurs and drifting continents, the ozone hole, global warming and the nature of the upper atmosphere, and the continent's treasure trove of meteorites. This series is presented in conjunction with the upcoming Gallery 3 exhibition (see page 1 for details).

October 27: *Antarctica: Ice and the Rocks Beneath*. Michael Novacek, vice president and dean of science.

November 3: *Antarctic Treasures from Space — Meteorites*. Martin Prinz, curator, Department of Mineral Sciences

November 10: *Antarctica: Its Weather; the Ozone Hole; the Nature of the*

Upper Atmosphere to the Edge of the Universe. William A. Gutsch, Jr., chairman and associate astronomer at the Hayden Planetarium.

November 17: *Penguins and Other Antarctic Birds*. George F. Barrowclough, chairman and associate curator, Department of Ornithology.

December 1: *Antarctic Dinosaurs and Drifting Continents*. Mark Norell, curator, Department of Vertebrate Paleontology.

To register, make your check payable to the American Museum of Natural History and mail with a self-addressed, stamped envelope to: Antarctica, Attn. Sidney Horenstein, coordinator of environmental public programs, American Museum of Natural History, 79th Street at Central Park West, New York, NY 10024-5192.

Membership Workshops and Tours. Use this coupon to register for *Hawk Mountain*, *Rug Hooking*, and *Day Trip to Shinnecock Reservation*. Indicate a first, second, and third choice of times to register for *Guided Tours of Antarctica* and *Walking Tours of Van Cortlandt Park* and a first and second choice of times for *Clay Workshops*.

Name(s) of program(s): _____

Number of tickets and price (please indicate which program if more than one): _____

Total amount enclosed: _____

Name: _____

Address: _____

City: _____ State: _____ Zip: _____

Daytime telephone: _____

Membership category: _____

Please make check payable to the American Museum of Natural History and mail with a **self-addressed, stamped envelope** to: *Workshops and Tours*, Membership Office, American Museum of Natural History, Central Park West at 79th Street, New York, NY 10024-5192.

Cuba: Nature of an Island

On display in the Akeley Gallery

Islands are special places for natural history — they're blessed with unique plants and animals, but their native species are prone to extinction. A research team of scientists from the American Museum and the Museo Na-

cional de Historia Natural in Havana have explored Cuba's remarkable flora and fauna together since 1989.

The new exhibition *Cuba: Nature of an Island* features photographs and specimens that illustrate some of the

results of this unusual joint project. Among the scientists' discoveries are the remains of a previously unknown species of monkey that may have died out after humans colonized Cuba at least 7,000 years ago. They also found

the earliest fossils of a land mammal ever unearthed in the West Indies. The 16-million-year-old fossils are from a sloth, a relative of the two-toed tree sloth of South America.

The exhibition, which fea-

tures bilingual text, is on display in the Akeley Gallery through January 3. Afterward *Cuba: Nature of an Island* will go on permanent display in the Museo Nacional de Historia Natural in Havana.

Fall Lecture Series

Explore the mysteries of human origins, search for Solomon's mines, and discover the geological marvels of the solar system at the 1993 Fall Lecture Series, sponsored by the Education Department.

Speakers include Robert Eisenman, who will present *Mystery, Research, and the Dead Sea Scrolls*, and Jared M. Diamond, whose topic is *Our Disastrous Past*. Joseph J. Peters of the Department of Mineral Sciences will offer *Minerals, Myths, and Magic*, and geologist Sidney Horen-

stein will present *The Geology of the Planets*.

In addition, animal expert Andrew Simmons will host a lively family program, *Wildlife Conservation: Predators, Prey, and Habitats*. The programs — featuring live wild animals such as carnivorous reptiles and birds of prey — will be repeated on four Saturdays and Sundays, beginning October 23, at 11:00 a.m. and 1:00 p.m.

For further information call (212) 769-5310, Monday through Friday from 9:00 a.m. to 5:00 p.m.

1993 Margaret Mead Film Festival

Monday, October 4 - Sunday, October 10

A fascinating assortment of anthropology films from around the world are featured in the 1993 Margaret Mead Film Festival. For a complete schedule of films and videos call (212) 769-5305.

The festival hours are from 6:30 to 10:30 p.m. on Monday, October 4, through Thursday, October 7; from 11:00 a.m. to 8:30 p.m. on Saturday, October 9; and from 11:00 a.m. to 5:00

p.m. on Sunday, October 10. Daily tickets, which go on sale at 5:00 p.m. on weekdays and at 10:30 a.m. on weekends, are \$7 for Members and \$8 for non-Members and are not sold in advance. A ticket does not guarantee admission to the film of your choice; all seating is on a first-come, first-served basis. A festival pass (valid October 4-10) is \$36 for Members and \$40 for non-Members.

Striped Bass Tag and Release in NY Harbor

Friday, November 26

Friends of Fishes and the Hudson River Foundation present the second annual day-after-Thanksgiving outing at which participants will catch, tag, and release striped bass.

At 8:30 a.m., on Friday, November 26, anglers will board the *Miss Elizabeth* at South Street Seaport. A first-class fishing vessel with a heated cabin, the *Miss Elizabeth* is captained by Joe Peplowski. Participants will be accompanied by John Waldman of the Hudson River Foundation, curators from the Department of Ichthyology. Friends of Fishes scientific

adviser Tom Lake, Captain Joe Shastay, and baykeeper Andy Wilner. Soup, sandwiches, beer, wine and cheeses, fruit, and sweets will be served, and all fishing gear will be provided.

For additional information call Friends of Fishes at (212) 289-3605 or fax (212) 360-6625. To register, make your check for \$60 payable to Friends of Fishes/AMNH and mail with a self-addressed, stamped envelope to: Friends of Fishes, Department of Ichthyology, American Museum of Natural History, 79th Street at Central Park West, New York, NY 10024-5192.

The Mack Lipkin Man and Nature Lectures

Speaker: Geologist Frank H.T. Rhodes

Charles Darwin's Portrait of a Small Planet and Charles Darwin's Portrait of a Large Primate

Monday, October 25, and Tuesday, October 26
7:00 p.m., Main Auditorium
Both lectures: \$10 for Members, \$20 for non-Members
Single lecture: \$5 for Members, \$10 for non-Members

Frank H.T. Rhodes, the president of Cornell University, will present this year's Mack Lipkin Man and Nature Lectures. A geologist by training, Rhodes holds the faculty rank of professor of geology at Cornell. In addition to his doctorates in philosophy and science, he holds honorary degrees from more than 20 institutions. His numerous awards include the Geological Society's Daniel Pidgeon Fund, Lyell Fund, and Bigsby Medal.

In 1987 Rhodes was appointed by President Reagan to the National Science Board, and in 1989 he was appointed by President Bush to the President's Education Policy Advisory Committee. The author of more than 70 major scientific articles and monographs and 60 articles on education, Rhodes' books include *The Evolution of Life, Fossils, and Language of the Earth*.

The lectures will begin on Monday, October 25, with *Charles Darwin's Portrait of a Small Planet*. Darwin's early scientific vocation was geology, and his voyage aboard the *Beagle* (1831-36) coincided with the publication of Charles Lyell's *Principles of Geology*. Armed with Lyell's methodology, Darwin devoted himself to the study of the earth, based on his "conviction that some great law of nature remains to be discovered by geologists" (Darwin, unpublished note).

The lecture recounts Darwin's early life and explains the devotion of his early scientific career to the search for this law. Rhodes will discuss the centrality of the *Beagle* explorations to Darwin's other work, including his studies of the age and development of the earth, the history of life, the significance of volcanoes, coral reefs,

ocean-deeps, and mountain chains. The unique portrait of the planet that Darwin created represented the first attempt to design a model of the mechanism by which the earth "works." Darwin's theories about the earth were the foundation for his later theory of evolution and the source of fundamental questions about nature and natural law.

The second lecture, *Charles Darwin's Portrait of a Large Primate*, will take place on Tuesday, October 26. Rhodes will examine Darwin's mature career and his growing conviction that species developed through

evolution driven by natural selection. The scientist's early reticence in addressing the place of humankind in the evolutionary scheme will be addressed, along with the influence of studies of human origins and characteristics by Huxley, Lyell, and Wallace. The great evolutionary debates of the nineteenth century will be reviewed and linked to contemporary concerns about human nature, human values, and human destiny.

Use the coupon below to register for the lectures, and for further information call (212) 769-5019.

Mack Lipkin Man and Nature Lectures. Please indicate single or both lectures.

___ Mon., Oct. 25, and Tues., Oct. 26
Number of Members' tickets at \$10: ___
Number of non-Members' tickets at \$20: ___
Total amount enclosed for program: ___

___ Mon., Oct. 25, only
Number of Members' tickets at \$5: ___
Number of non-Members' tickets at \$10: ___
Total amount enclosed for program: ___

___ Tues., Oct. 26, only
Number of Members' tickets at \$5: ___
Number of non-Members' tickets at \$10: ___
Total amount enclosed for program: ___

Name: _____

Address: _____

City: _____ State: _____ Zip: _____

Daytime telephone: _____

Membership category: _____

Please make check payable to the American Museum of Natural History and mail with a **self-addressed, stamped envelope** to: Man and Nature, Office of Special Events, American Museum of Natural History, Central Park West at 79th Street, New York, NY 10024-5192.

Museum Notes

Hours

Exhibition Halls	
Mon.-Thurs. & Sun.	10:00 a.m.-5:45 p.m.
Fri. & Sat.	10:00 a.m.-8:45 p.m.
The Museum Shop	
Mon.-Thurs. & Sun.	10:00 a.m.-5:45 p.m.
Fri. & Sat.	10:00 a.m.-7:45 p.m.
The Junior Shop	
Mon.-Fri.	10:00 a.m.-4:45 p.m.
Sat. & Sun.	10:00 a.m.-5:45 p.m.
The Museum Library	
Tues.-Fri.	11:00 a.m.-4:00 p.m.
The Discovery Room	
Passes are distributed at the first-floor information desk beginning at 11:45 a.m. Ages 5-10. Children must be accompanied by an adult. Closed on holidays and weekdays.	
Sat. & Sun.	Noon-4:30 p.m.
The Natural Science Center	
For children of all ages and their families. Closed on Mondays and holidays.	
Tues.-Fri.	10:30 a.m.-12:30 p.m. and 2:00-4:30 p.m.
Sat. & Sun.	1:00-4:30 p.m.

Museum Dining

Diner Saurus Fast Service Eatery	
Daily	11:00 a.m.-4:45 p.m.
Garden Cafe	
Reservations: (212) 769-5865	
Lunch: Mon.-Fri.	11:30 a.m.-3:30 p.m.
Dinner: Fri. & Sat.	5:30-7:30 p.m.
Brunch: Sat. & Sun.	11:00 a.m.-4:00 p.m.

Whale's Lair

Fri.	3:00-8:00 p.m.
Sat.	Noon-8:00 p.m.
Sun. & most holidays	Noon-5:00 p.m.
Snack Carts (at 77th Street & on the first floor of the Roosevelt Memorial Hall)	
Sat. & Sun.	11:00 a.m.-4:00 p.m.

Entrances

During Museum hours visitors can enter the building through the 77th Street entrance, the parking lot entrance (81st Street), or the Roosevelt Memorial Hall entrance (79th Street and Central Park West). **Visitors attending programs after hours can enter the building through the driveway entrance at 79th Street and Central Park West.**

Naturemax

The Naturemax Theater presents Antarctica, a thrilling exploration of the highest, driest, coldest, and most mysterious continent on earth. Showtimes for Antarctica are 10:30 and 11:30 a.m., 1:30 and 3:30 p.m. daily. Tropical Rain Forest, which portrays the 400-million-year evolution of these vanishing resources, is shown at 12:30, 2:30, and 4:30 p.m. On Friday and Saturday at 6:00 and 7:30 p.m., Antarctica is shown on a double bill with Tropical Rain Forest. Schedules and prices are subject to change without notice. Call (212) 769-5650 for further information.

Admission (Participating and Higher Members): Adults: \$4 single feature; \$5.50 double feature Children: \$2 single feature; \$3 double feature

Birthday Parties

Theme parties for young Members 5-10 years



old are two hours long and held at 3:30 p.m. on Wednesdays, at 4:00 p.m. on Fridays, and at 11:00 a.m. or 2:30 p.m. on weekends. The group should be no fewer than 10 and no more than 20. The fee is \$275 plus \$15 per child. (The cost includes all materials, juice, ice cream, and favor bags. The cake is not included.) Call (212) 769-5606 for further information.

Parking

The Museum's parking lot is located on 81st Street between Central Park West and Columbus Avenue. Space is limited and available on a first come, first-served basis; fees are \$12 for cars and \$11 for buses. The lot is open from 9:30 a.m. to 9:30 p.m. on Sunday through Thursday and from 9:30 a.m. to midnight on Friday and Saturday.

Hertz Manhattan, located one block away from the Museum at 210 West 77th Street (between Broadway and Amsterdam), offers parking discounts to Members: on Monday through Friday they receive a \$2 discount off regular prices and on Saturday and Sunday Members receive a \$3 discount.

Call the Membership Office at (212) 769-5606 for information about alternative parking.

Happenings at the Hayden

Lecture

Frontiers in Astronomy and Astrophysics

On Monday, October 25, at 7:30 p.m., Thomas Bania of Boston University will present an illustrated talk, "The First 100 Seconds in the Life of the Universe." Bania will discuss how probing the strange happenings at the beginning of time and space may help us to understand the nature and fate of the universe.

On Tuesday, November 16, at 7:30 p.m., Steve Maran of the NASA Goddard Space Flight Center will present an illustrated lecture, "Hubble Space Telescope Update." He'll discuss the latest findings from orbit and preview the HST's first rescue mission.

These lectures are part of the Frontiers in Astronomy and Astrophysics series. Tickets are \$6 for Participating and Higher Members and \$8 for non-Members. Use the adjacent coupon to order tickets, and for information about ticket availability and upcoming lectures call (212) 769-5900.

Sky Show

Orion Rendezvous...A Star Trek® Voyage of Discovery

Climb aboard the starship Antares for a cosmic journey. Actor LeVar Burton joins the crew as Lieutenant Commander Geordi La Forge, the character he plays on *Star Trek: The Next Generation*®. Enter the twenty-fourth century and journey to a place where six suns blaze in the sky, and then voyage to a sun 100 million times bigger than our own. Discover where stars are born and explore the galactic graveyard of a star that died in one of the most powerful explosions in the universe. Space enthusiasts and *Star Trek*® fans alike will know that they have gone where no planetarium audience has gone before.

Showtimes on Oct. 1, 2, 3, 30, and 31:
Mon.-Fri. 1:30 and 3:30 p.m.
Sat. 11:00 a.m. (except for Oct. 2), 1:00, 2:00, 3:00, 4:00, and 5:00 p.m.
Sun. 1:00, 2:00, 3:00, 4:00, and 5:00 p.m.

Please note: There will be no Sky Shows from Oct. 4 through 29 due to theater renovations. The *Star Trek*® exhibition will be open for viewing.

Admission to the Sky Show for Participating and Higher Members is \$6 for adults and \$3.50 for children ages 2 to 12. Prices and schedule subject to change without notice. For non-Members' prices and additional information, call (212) 769-5100.

Exhibition

Star Trek® Exhibition:

A Retrospective of the Sixties

Alien costumes, Starfleet uniforms, *Enterprise* models, and assorted props and photos from Paramount's original 1960s television series are on display in a special exhibition curated by the National Air and Space Museum. Explore the historical, political, social, and cultural themes incorporated into the weekly *Star Trek*® series. For information call (212) 769-5100.

Children's Shows

Wonderful Sky is a special Sky Show for preschoolers. Children sing along with images of their favorite Sesame Street Muppets as they learn about rainbows, the phases of the moon, sunsets, and stars. Sat., Oct. 2, at 10:30 and 11:45 a.m., and Sat., Nov. 6, at 10:30 a.m. Admission for Participating and Higher Members is \$6 for adults and \$3.50 for children. Members can purchase up to four tickets at the Members' price.

Shows usually sell out in advance; reservations, by mail only, are necessary. Make your check payable to the Hayden Planetarium (Attn: *Wonderful Sky*, Central Park West at 81st Street, New York, NY 10024), indicate membership category and a first and second choice of showtimes, and include a self-addressed, stamped envelope and your daytime phone number. For additional information, call (212) 769-5900.

Robots in Space features Lucasfilm's R2D2 and C-3PO and has been created especially for children ages 7 to 12. Together with a live host, these famous space robots take children on a tour of the universe. See how satellites and probes — the real space robots — help us learn about worlds near and far. Journey from the earth to other planets and distant black holes. Sat., Nov. 6, at 11:45 a.m. Admission for Participating and Higher Members is \$4 for adults and \$2 for children. For additional information, call (212) 769-5900.

Laser Shows

Journey into another dimension where laser visuals and rock music combine to create a dazzling 3-D experience of sight and sound. Shows are presented on Fridays and Saturdays at 7:00, 8:30, and 10:00 p.m. For prices and show schedule, telephone (212) 769-5100.

Please note: There will be no laser shows on Oct. 8, 9, 15, 16, 22, and 23, due to theater renovations.

Lecture: "The First 100 Seconds in the Life of the Universe." Monday, October 25, 7:30 p.m.

Number of Members' tickets at \$6 (no more than 4, please):
Number of non-Members' tickets at \$8:
Total amount enclosed:

Lecture: "Hubble Space Telescope Update." Tuesday, November 16, 7:30 p.m.

Number of Members' tickets at \$6 (no more than 4, please):
Number of non-Members' tickets at \$8:
Total amount enclosed:

Name: _____

Address: _____

City: _____ State: _____ Zip: _____

Daytime telephone: _____

Membership category: _____

Please make check payable to the Hayden Planetarium and mail with a **self-addressed, stamped envelope** to: Lectures, Hayden Planetarium, Central Park West at 81st Street, New York, NY 10024-5192.

Please note that ticket orders are subject to availability and cannot be processed without telephone number and stamped, self-addressed envelope. **Do not include ticket requests or checks for American Museum programs.**

Sun

Mon

Tue

Wed

Thu

Fri

Sat

October 1993 American Museum of Natural History

Spotlight Tours

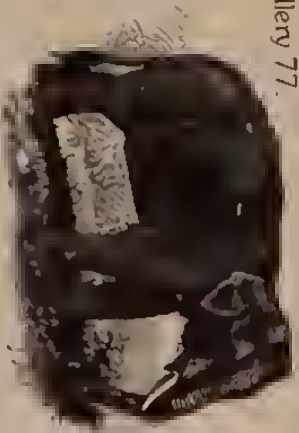
The Volunteer Office offers a series of free Spotlight Tours, which are conducted by professionally trained Volunteer Highlights Tour guides. The tours are listed throughout the calendar, and topics are subject to change. For additional information about the tours, which depart from the second floor between the Roosevelt Rotunda and the Hall of African Mammals, call (212) 769-5566.



1

2 Noon-4:00 p.m. Hudson River Cruise. \$50 for Members, \$60 for non-Members. Tickets required. Page 2.
3:45 p.m. Spotlight Tour: Journey to the Center of the Earth. Free.

3 Last chance to see Bears: Imagination and Reality in Gallery 77.



4 2:45 p.m. Spotlight Tour: Museum Art? Art Museum? Free.
6:30 p.m. 1993 Margaret Mead Film Festival. Page 6.

5 1:45 p.m. Spotlight Tour: Siberia. Free.
6:30 p.m. 1993 Margaret Mead Film Festival. Page 6.

6 6:30 p.m. 1993 Margaret Mead Film Festival. Page 6.

7 10:30 and 11:30 a.m. and 1:30 p.m. Rangoli. Lecture/demonstrations of traditional Indian floor decorations in the Hall of South Asian Mammals. Free (daily through October 16; noon, 2:00 and 4:00 p.m. on weekends). Call (212) 769-5315 for further information.

8

6:30 p.m. 1993 Margaret Mead Film Festival. Page 6.

9 11:00 a.m. 1993 Margaret Mead Film Festival. Page 6.

16 7:00 a.m.-7:00 p.m. Members' Day Trip to Hawk Mountain. Tickets required. Page 2.

10 11:00 a.m. 1993 Margaret Mead Film Festival. Page 6.
2:00 p.m. NY Shell Club. Room 319. Free.

11 Columbus Day observed. The Museum is open.
10:45 a.m. Spotlight Tour: Human Biology and Evolution. Free.

12 1:45 p.m. Spotlight Tour: Creation of a Diorama. Free.
7:30 p.m. Linnaean Society of NY. Linder Theater. Free.

13 6:30 p.m. NY Mineralogical Club. Room 319. Free.
7:45 p.m. Amateur Astronomers Association. Linder Theater. Free.

14 7:00 p.m. DNA Analysis. Members' evening program. Kaufmann Theater. Free for Members, \$8 for non-Members. Page 2.

15 6:30 p.m. Members' Rug-Hooking Workshop. Part 1 of 2. \$40, and open only to Participating and Higher Members. Tickets required. Page 2.

Autumn Festival of India. Call (212) 769-5315 for information about the following programs:
11:00 a.m. - 2:00 p.m. and **3:00 - 4:00 p.m.** Traditional Crafts of India. **1:00-4:30 p.m.** Leonhardt People Center events (see Oct. 17). **2:00 p.m.** Indian Cultural Misconceptions and Biases: Panel Discussion. **3:00 and 4:00 p.m.** Folk Dance Workshops. **5:00 p.m.** Let Our Gods Speak. **6:30 p.m.** Classical Music of South India. Free.

17 1:00-4:30 p.m. Indian Nursery Rhymes: Autumn Festivals from Bengal and Delhi: Durga Puja at Home: Indian Modern Artists — Going Home? Leonhardt People Center. Free. For information call (212) 769-5315.

18 2:45 p.m. Spotlight Tour: Theodore Roosevelt Memorial. Free.

19 1:45 p.m. Spotlight Tour: Human Biology and Evolution. Free.

20 4:00-7:00 p.m. Members' Preview of Antarctica in Gallery 3. Free, and open only to Participating and Higher Members. Page 1.
7:30 p.m. Members' Private Viewing at the Naturemax Theater. \$5, and open only to Participating and Higher Members. Page 1.

21 7:00 p.m. NY Microscopical Society. Room 319. Free.

22 6:30 p.m. Members' Rug-Hooking Workshop. \$40, and open only to Participating and Higher Members. Tickets required. Page 2. Antarctica opens in Gallery 3. Page 1.

23 3:45 p.m. Spotlight Tour: Hidden Stories of the Museum. Free.
4:00 p.m. War of the Worlds. Members' afternoon program. Linder Theater. \$6 for Members, \$9 for non-Members. Page 2.

24 2:00 p.m. NY Paleontological Society. Room 319. Free.

25 7:00 p.m. The Mack Lipkin Man and Nature Lectures: "Charles Darwin's Portrait of a Small Planet." Part 1 of 2. Main Auditorium. Page 6.
7:30 p.m. Frontiers in Astronomy and Astrophysics: "The First 100 Seconds in the Life of the Universe." Page 7.

26 1:45 p.m. Spotlight Tour: Coral Reefs. Free.

27 7:00 p.m. The Mack Lipkin Man and Nature Lectures: "Charles Darwin's Portrait of a Large Primate." Part 2 of 2. Main Auditorium. Page 6.
7:30 p.m. Linnaean Society of NY. Blum Lecture Room. Free.

Too Much Mail?

The Membership Office recently mailed a letter to prospective Members asking them to join the Museum. In spite of our best efforts to remove the names of our current Members from this mailing, you may have received one of these letters. Please accept our apology. Would you consider passing the letter on to a friend? Your help in reaching new Members is greatly appreciated.

29 Ghost Stories. Kaufmann Theater. **6:00 p.m.** Members' family program. \$5 for Members, \$8 for non-Members. **8:00 p.m.** Adults' program. \$8 for Members, \$12 for non-Members. Page 2.
6:45 p.m. Spotlight Tour: Halloween: The Tour. Free.

30 Members' Behind-the-Scenes Tours of the Department of Herpetology and Ichthyology. Tickets required. Page 2.
1:45 p.m. Spotlight Tour in sign language: Halloween: The Tour. Free.
6:45 p.m. Spotlight Tour: Halloween. Free.

31 Halloween. Daylight Saving Time ends.

POTUNDA

For Participating and Higher Members of the American Museum of Natural History

Vol. 18, No. 10 November 1993



Wildlife biologist Ian Redmond and Shinda, a young male mountain gorilla

Gorillas in the Mist: The True Story

Tuesday, November 30

7:00 p.m.

Main Auditorium

\$8 for Members, \$12 for non-Members

The story of Dian Fossey's life and achievements among the mountain gorillas of Rwanda has grown to legendary proportions. Fossey's adventures among the greatest of the great apes, whom she came to regard as friends and whom she almost certainly saved from extinction, have been related by writers and journalists in books, newspapers, and magazines around the world; even Hollywood rendered a stylishly melodramatic portrayal. Members can learn the facts about the past and the future of the work at Karisoke Research Centre from one of Fossey's closest friends and co-workers, Ian Redmond, who comes to the Museum this month.

In *Gorillas in the Mist*, her moving account of her years at Karisoke, Fossey warmly acknowledged Red-

mond as outstanding among the students who worked at the camp. A wildlife biologist, photographer, and writer, Redmond worked as Fossey's research assistant from 1976 to 1978; in 1980 he worked for the Mountain Gorilla Project and in the following year he took part in a census of the Virunga gorillas. His contributions to Karisoke, Fossey wrote, were "not for personal accolades but for the sake of the gorillas and active conservation within the Virunga Volcanoes."

Redmond will talk with Members about Fossey's controversial philosophy of active conservation. The already arduous circumstances under which the gorillas are studied—at an altitude of 10,000 feet in a region subject to torrential rains, foot-deep

mud, and an unstable political climate—is further complicated by poachers and their slaughter. Fossey's two decades of observational studies were constantly interrupted by the need to defend the animals she researched.

Over the years she developed a policy that advocates frequent patrols in wildlife areas to destroy poacher equipment and weapons, backed up by firm and prompt law enforcement. Active conservation also promotes census counts in regions of breeding and ranging concentration and strong safeguards for the animals' limited habitat—rather than the lucrative encroachment of tourists. "I am only one person, but one person on the spot," Fossey wrote. "I know what has to be done for the protection of

the gorillas—long, tiring, strenuous roving patrols over the entirety of the Virungas using Rwandans who can prove themselves. This is actual conservation, not theoretical conservation."

Fossey's concept of active conservation alienated her from much of the scientific community, most fund-raising conservation organizations, and many Rwandans. It also cost Fossey her life—one or more of her numerous enemies murdered her in 1985. The gorillas, however, survive.

In addition to reminiscing about his work with Fossey, Redmond will review conservation successes and failures in the region, including the effects of Rwanda's civil war. To register for the program, use the coupon on page 3.

Chemistry for Kids

Saturday, November 6

Young Members will experience the magic of chemistry through demonstrations and hands-on experiments at the eighth annual presentation of *Chemistry for Kids*. Patricia Ann Redden, a professor of chemistry and departmental chairperson at Saint Peter's College in Jersey City, will host the program, which is geared toward children between the ages of 5 and 12.

Showtimes are at 11:00 a.m., 1:00 and 3:00 p.m. in the Kaufmann Theater. Tickets are \$6 for Members and \$10 for non-Members. Please note that all attendees must have tickets, and use the November Members' programs coupon on page 3 to register.

Members' Walking Tour of Van Cortlandt Park

Sunday, November 7

Geologist Sidney Horenstein will lead walking tours around Van Cortlandt Park in the Bronx. Horenstein, who is the Museum's coordinator of environmental public programs, will talk about historical features and describe how geological formations influence the park's topography.

The tours will take place at 10:30 a.m., noon, and 1:30 p.m. Tickets are \$16 and available only to Participating and Higher Members. Call the Membership Office at (212) 769-5606 for information about ticket availability.

Members' Private Viewing of Star Trek Exhibition and Sky Show

Tuesday, November 9

Members can take a seat in Captain Kirk's chair and step into the transporter room of the *Enterprise* at a private viewing of the Planetarium's current exhibition. The *Star Trek* retrospective exhibition, which was coordinated by the National Air and Space Museum, features Starfleet uniforms, props, and memorabilia from the 1960s television series. Members will also view the current Sky show, *Orion Rendezvous: A Star Trek Voyage of Discovery*.

The Planetarium will open at 6:00 p.m. on the night of the private viewing. The Sky Show will start at 7:00 p.m., and afterward the exhibition will remain open until everyone has had a chance to see it. Tickets are \$7 and available only to Participating and Higher Members. Use the November Members' programs coupon on page 3 to register.

Members' Day Trip to the Shinnecock Reservation

Saturday, November 13

Many of Long Island's earliest inhabitants vanished after the arrival of colonists. Not so the Shinnecock, whose descendants maintain a reservation in Southampton Village. Members can travel by bus from the Museum to the reservation, where a guide

will lead them on a tour and discuss the reservation's history. A member of the tribe will talk about Shinnecock culture and answer questions.

The trip will take place from 9:00 a.m. to 6:00 p.m. Tickets are \$50 and available only to Participating and Higher Members ages 13 and up. Use the coupon on page 5 to register, and please note that tickets are available only by mail.

The Forbes Magazine Collection of Fabergé

Tuesday, November 23

The objets d'art created by jeweler Peter Carl Fabergé—including his celebrated Imperial Easter Eggs—are the focus of an illustrated lecture. Mary Ellen Sinko, curator of the Forbes magazine collection, will discuss highlights from the collection amassed by publisher Malcolm Forbes. She'll also talk about the history of the House of Fabergé and the role of imperial patronage in Fabergé's career.

The program will take place at 7:00 p.m. in the Kaufmann Theater. Tickets are \$6 for Members and \$9 for non-Members; use the coupon on page 3 to register.

Members' Adult-Child Workshop: Feast of Clay

Sunday, November 21

This Thanksgiving you and your child can work together to create a holiday keepsake that you'll treasure for years to come. June Myles will assist adults and kids in fashioning tabletop ornaments from self-hardening clay—options include individual favors for each guest, seasonal candle holders, or a centerpiece.

The 90-minute workshops are geared toward children between the ages of 5 and 9. They'll take place at 10:30 a.m. and 1:30 p.m. Tickets are \$26 per couple and are available only to Participating and Higher Members. Use the coupon on page 5 to register, and please note that tickets are available only by mail.

Members' Guided Tours of Antarctica

Friday, November 12

Visit Antarctica in the company of professionally trained Volunteer Highlights Tour guides. The Gallery 3 tours will take place at 4:00, 5:30, and 7:00 p.m. Tickets are free and available only to Participating and Higher Members. Use the coupon on page 5 to order tickets.



Czar Alexander III presented this Fabergé Renaissance egg to his wife, Maria Feodorovna, in 1894

Discover Papua New Guinea

The American Museum's scientists have conducted research in Papua New Guinea for decades, and an exciting land and river Discovery Tour from February 16 through March 1 follows in that tradition.

The large island of New Guinea was virtually the last uninhabited place on earth to be explored by Europeans, and even today parts of the country have little contact with the West. The island is rich in natural wonders and its isolation from every major land mass except Australia has allowed the evolution of unique wildlife. Islanders maintain diverse cultural traditions that were studied by Margaret Mead earlier in this century.

Participants on this Discovery Tour will divide their time in New Guinea between the Southern Highlands and the Sepik River. In the highlands they'll stay at Ambua Lodge, which is perched 7,000 feet

above the Tari Gap in the mist-shrouded mountains. The surrounding lands are home to the majestic bird of paradise, exotic plants and flowers, and the "Wigmen," known for their elaborately painted faces and amazing wigs of human hair embellished with feathers, flowers, and shells. Traveling along the Sepik allows participants to visit fascinating villages with immense and distinctive "spirit houses" and to see stunning arrays of local artwork and artifacts.

Accompanying this Discovery Tour and providing an educational enrichment program are an anthropologist who worked with Margaret Mead and an ornithologist/naturalist, both of whom have conducted extensive research in New Guinea. For further information call Discovery Tours at (800) 462-8687 or (212) 769-5700 in New York State.



See Antarctica in Gallery 3

ROTUNDA

ISSN 0194-6110

Vol. 18, No. 10
November 1993

Donna Bell — Editor
Sheila Greenberg — Manager of Membership Services
Angela Soccodato — Designer
Rita Campon — Copy Editor
Yolanda Loften — Fulfillment Coordinator
Risa Miller — Program Coordinator

Rotunda, a publication for Participating and Higher Members of the American Museum of Natural History, is published monthly September through June, bimonthly July and August. Publication offices are at *Natural History* magazine, American Museum of Natural History, Central Park West at 79th Street, New York, NY 10024-5192. Telephone: (212) 769-5606. Subscriptions: \$50 a year for Participating Membership; \$100 a year for Contributor Membership. © 1993 American Museum of Natural History. Second-class postage paid at New York, NY. Postmaster: Please send address changes to: *Rotunda*, Membership Office, American Museum of Natural History, Central Park West at 79th Street, New York, NY 10024-5192.

Printed by Waldon Press, Inc. New York

Members' Adult-Child Workshop

Make a Holiday Gingerbread House

Saturday, December 18, or Sunday, December 19

10:30 a.m.-noon or 1:30-3:00 p.m.

\$30 per couple, and open only to Participating and Higher Members
Ages 5-10

Build the house of your sweetest dreams at the Members' annual gingerbread-house-making workshop. Gumdrops, jelly beans, candy canes, and other tasty treats are the stuff of architectural fantasies as they form the bricks, shingles, doors, and

windows of gingerbread houses and apartments.

June Myles will show participants how to raise the beams and assemble the structure of their no-bake houses. Then comes the edible art—decorating the houses with an assortment of

cookies and colorful candies.

This Members' family workshop has become an annual tradition as parents and kids return each year to build a new holiday creation. Use the coupon on page 5 to register, and please note that tickets are available only by mail.



Origami Holiday Workshops

Saturday, December 11

10:30 and 11:30 a.m., 2:00 and 3:00 p.m.

\$2 materials fee per person,
and open only to
Participating
and Higher Members

No scissors, no glitter, no glue—Members of all ages can learn to make animals, stars, and other enchanting figures with just sheets of colored paper. Families can experience the centuries-old charm and satisfaction of paperfolding at the fifteenth annual Holiday Origami Workshops.

Young Children's Workshop (ages 4-6). Youngsters will fold a few models from the following possibilities: butterflies, swans, jumping frogs, candy canes, purses, boxes, or sailboats. Children must be accompanied by an adult.

Beginners' Workshop (ages 6 and older). Participants will fold one or more of the following selections: a blow-up bunny, a panda, a whale, a butterfly, a frog puppet, a penguin, or a crystal.

Intermediate Workshop (ages 7 and older). Participants in this workshop should be comfortable with origami folds such as mountains and valleys, rabbit ears, inside-reverse, and squash folds. They'll learn at least one of the following models: a dove, a dinosaur, a star, a strawberry, or a seal.



All workshops are taught by Museum volunteers and members of the Friends of the Origami Center of America. At the conclusion of the workshops, which have been organized by professional

paperfolder Michael Shall, all Members will receive origami paper and instructions to take home. Use the coupon at right to register, and please note that tickets are available only by mail.

November Members' Programs Coupon

Name: _____

Address: _____

City: _____ State: _____ Zip: _____

Daytime telephone: _____

Membership category: _____

Total amount enclosed _____

Please make check (if applicable) payable to the American Museum of Natural History and mail with a **self-addressed, stamped envelope** to: November Members' Programs, Membership Office, American Museum of Natural History, Central Park West at 79th Street, New York, NY 10024-5192. **Telephone reservations are not accepted. No refunds or exchanges.**

Unless otherwise indicated, no more than eight tickets may be ordered for a program. Participating Members are entitled to four tickets per program at the Members' price. Higher Members are entitled to six tickets, and Associate Members are entitled to one ticket.

Chemistry for Kids. Saturday, November 6

Please indicate a first, second, and third choice of times

___ 11:00 a.m. ___ 1:00 p.m. ___ 3:00 p.m.

Number of Members' tickets at \$6: _____

Number of additional tickets at \$10: _____

Total amount enclosed for program: _____

Members' private viewing of Star Trek

Tuesday, November 9, 6:00 p.m.

Number of Members' tickets at \$7: _____

Total amount enclosed for program: _____

The Forbes Magazine Collection of Fabergé

Tuesday, November 23, 7:00 p.m.

Number of Members' tickets at \$6: _____

Number of additional tickets at \$9: _____

Total amount enclosed for program: _____

Garillas in the Mist. Tuesday, November 30, 7:00 p.m.

Number of Members' tickets at \$8: _____

Number of additional tickets at \$12: _____

Total amount enclosed for program: _____

Endangered Species. Friday, December 10, 7:00 p.m.

Number of free Members' tickets

(no more than 2, please): _____

Number of additional Members' tickets at \$5: _____

Number of non-Members' tickets at \$8: _____

Total amount enclosed for program: _____

Origami Holiday Workshops. Saturday, December 11

Please indicate workshop level and a first, second, and third choice of times.

___ Young Children's Workshop

___ Beginners' Workshop

___ Intermediate Workshop

___ 10:30 a.m. ___ 11:30 a.m.

___ 2:00 p.m. ___ 3:00 p.m.

Number of Members' tickets at \$2: _____

Total amount enclosed for program: _____

Valley Forge. Wednesday, December 15, 7:00 p.m.

Number of Members' tickets at \$7: _____

Number of additional tickets at \$10: _____

Total amount enclosed for program: _____

NOTE: Orders received less than ten days before show dates will be held for pick-up at the door on the day of the program if tickets are still available. If an event is sold out, you will be advised in writing or by phone and your check will be returned. Babies in arms or strollers will not be admitted to programs.

New President for the American Museum

Ellen V. Futter, the first woman to serve as chief executive in the Museum's 124-year history, takes office as president this month. Futter, who has been president of Barnard College for the past 13 years, succeeds George D. Langdon, Jr., who announced last December that he intended to step down when he completed his five-year term.

Futter, 44, was the youngest person ever to head a major American college at the time of her inaugural. She is renowned as a dynamic voice for higher education. She moves from the stewardship of a select educational institution with a faculty and staff of over 700 and an endowment of more than \$60 million to a cultural institution with a curatorial and adminis-

trative staff of 750 and an endowment of over \$200 million.

As president of the Museum, Futter's goals include making the Museum a leading public forum, both nationally and internationally, for the debate of the great scientific issues of our time; substantially enlarging the Museum's educational role for both adults and children; dramatically increasing the Museum's visibility and influence in New York; and making the Museum's scholarly work better known.

A Barnard alumna, Futter received her JD degree from the Columbia University School of Law in 1974 and practiced corporate law at Milbank, Tweed, Hadley and McCloy for six years. She became acting president of Barnard in 1980 and was



Ellen V. Futter

named president the following year.

Valley Forge: 100 Years of Preservation

Wednesday, December 15
7:00 p.m.

Kaufmann Theater

\$7 for Members, \$10 for non-Members



Washington's headquarters at Valley Forge

An important chapter in America's Revolutionary War history began with the Continental Army's winter encampment at Valley Forge. In 1893 the site was named a national historical park, and at Valley Forge: 100 Years of Preservation, the park's superintendent will discuss its history.

Washington's troops took up bivouac positions in December 1777 at the Pennsylvania camp. Valley Forge was far enough away from the British troops to discourage attacks—the redcoats were

lodged in the comfort and warmth of Philadelphia. Its location on high ground, with the Schuylkill River to the north and Valley Creek to the west, made it defensible terrain.

The bitterness of the winter the army endured at Valley Forge is legendary in American history, but the training the soldiers received there contributed greatly to their triumph at Yorktown four years later. The reinvigorated army departed from Valley Forge in June 1778, and their camp was abandoned

but not forgotten.

This year is Valley Forge National Historical Park's centennial, and park superintendent Warren D. Beach will talk with Members about the agencies that managed Valley Forge over the last century. He'll show slides of the site and discuss how the desire to preserve it grew from an idea passed around a kitchen table into the national park of today.

Use the November Members' programs coupon on page 3 to register for the program.

Members' Day Trip to the Philadelphia Academy of Natural Sciences

A Day with the Dinosaurs

Saturday, December 4
9:00 a.m.–6:30 p.m.
\$50, and open only to Participating and Higher Members
Ages 10 and older

Can you clone your own dinosaur? And if you could, would you want to? After a hot summer of *Jurassic Park* mania Members can ponder these and other burning questions at Philadelphia's Academy of Natural Sciences.

Naturalist June Myles will escort Members on the trip, which departs from the American Museum at 9:00 a.m. Participants will arrive at the academy at about 11:00 a.m. for a private behind-the-scenes tour led by the head of the vertebrate paleontology department. After a bag lunch an academy docent will lead a tour of the permanent dinosaur exhibits.

Before heading homeward participants can explore the exhibition *Jurassic Park: The*

Science Behind the Mayhem. At this exciting exhibition, which looks at the benefits and risks of genetic engineering, participants will learn what scientists know about dinosaur behavior, size, and physiology. They'll also see some of the dinosaurs' modern-day relatives. (Participants will tour the exhibition on their own.) The group will arrive back at the American Museum at 6:30 p.m.

If you missed the American Museum's *Jurassic Park* exhibition or if you saw it and it whetted your appetite for more dinosaurs, this trip is a not-to-be-missed opportunity. Use the coupon on page 5 to register, and please note that tickets are available only by mail.

The New York Revels

The Winter Revels

Monday, December 6,
through Thursday, December 9
7:30 p.m.

Main Auditorium

\$12 for all children, \$17 for adult Members,
\$22 for adult non-Members

Holiday cheer abounds with the New York Revels at a performance of traditional dances, processions, carols, and drama. *The Winter Revels* echoes the Celtic rituals that marked the seasonal boundary between shadow and sunshine at the end of the old year and the beginning of the new. Through performance and participatory theater the Revels members blend song, dance, and drama into a celebration of life itself.

A nonprofit organization, Revels is dedicated to the communication of timeless traditions. Its repertoire is drawn from many cultures, and its productions show that all cultures in all times are fed by the same great river of myth, story, and song. The troupe members seek to revive community celebration in

today's world by inviting the audience to sing and dance with them in the aisles.

A cast of 70 children and adults will perform a variety of dances including the ancient "Abbots Bromley" antler dance (in which dancers bear the massive horns of a reindeer atop their heads), Morris dancing, and a sword dance. The Revels chorus will sing a wassail song, a variety of pagan carols (including "The Holly and the Ivy" and the ritual "Hunting of the Wren" song), and a grand Renaissance choral piece accompanied by early instruments and handbells.

Performances will take place nightly from Monday, December 6, through Thursday, December 9. The Garden Cafe will be open each evening. Use coupon on page 5 to register

Endangered Species: Restoring the Black Howler Monkey

Friday, December 10
7:00 p.m.
Kaufmann Theater
Free for Members, \$8 for non-Members



Mammalogist Fred Koontz will discuss strategies for preserving endangered species

Hailed as a visionary piece of legislation, the Endangered Species Act was signed into law by President Nixon in December 1973. In observance of our nation's 20 years of commitment to conserving endangered species, Members can hear about the reintroduction of the black howler monkey into the Cockscomb Basin of Belize.

Fred Koontz, curator of mammals at the Bronx Zoo/Wildlife Conservation

Park, has worked with a team of scientists for the last two years on an ambitious project to reestablish a population of black howler monkeys in the basin. The combined pressures of yellow fever, hurricane damage, and overhunting had driven the species to local extinction in 1978.

Koontz will describe how wild howlers were captured from a healthy population in northern Belize, transported,

and released after an acclimation period into the Cockscomb Basin Wildlife Sanctuary, a 100,000-acre nature preserve located in southern Belize. He'll discuss the radio tracking of the monkeys after their release and the ways in which this project contributes to possible restorations of other endangered primate populations by similar methods.

Use the coupon on page 3 to register.

Members' Tours of the

Con Edison Plant

Thursday, December 2
4:00 and 6:00 p.m.
\$16, and open only to Participating and Higher Members
Ages 16 and older

Sidney Horenstein, the Museum's coordinator of public programs, will lead Members on a tour of a Con Edison plant, where they'll observe the generator and hear about how it supplies local power.

Participants will meet at 11th Avenue and 59th Street. As they approach the 12th Avenue entrance,

Horenstein will discuss the plant's setting. The building, which occupies an entire square block, was designed by the architectural firm of McKim, Mead, and White. It was the main powerhouse for the city's first subway, the IRT, which opened in 1904.

The tours will observe all of the facility's operations. They'll see the production of

steam, which is used to drive the turbines that generate electricity. The steam is then sold for heating purposes to commercial buildings.

This tour involves extensive walking and stair climbing; participants should be able to keep pace. Use the coupon at right to register, and please note that tickets are available only by mail.

Members' Workshop

Deciphering the Human Skeleton

Thursday, December 16
5:30-7:30 p.m.
\$40, and open only to
Participating and Higher Members

When only the bones remain, how much information about an individual can be reconstructed? Jeffrey Schwartz, professor of anthropology at the University of Pittsburgh and research associate in anthropology at the American Museum, will present an introductory workshop that examines the conclusions of forensic anthropology.

The workshop will begin with a lecture, supplemented with slides and specimens, dealing with analyses and problems in forensic studies. These include disease and pathology, trauma, artificial manipulation and alteration of parts of the skeleton, normal skeletal variation, and the determination of age and sex of the individual. Schwartz will discuss the stereotypes that have crept into these studies and point out

some of the problems that forensic anthropologists encounter in the field.

The second half of the workshop will deal with specimens. Participants will test the stereotypes of gender based on European material and see how consistently skeletal morphology can be termed male or female. They'll also observe how certain aspects of aging and disease can alter parts of the skeleton from "male" to "female." A geographically diverse sample of skeletal material will be available for firsthand study of how much information can be extracted from the bones.

Enrollment is limited, and a reading list will be provided upon registration. Use the coupon below to register, and please note that tickets are available only by mail.

Membership Workshops and Tours. Use this coupon to register for *Deciphering the Human Skeleton* and the day trips to *Shinnecock Reservation* and the *Philadelphia Academy of Natural Sciences*. Indicate a first, second, and third choice of dates and times to register for the *Gingerbread House* workshops, a first and second choice of times for *Antarctica* tours, and a first and second choice of times for *Clay Workshops* and *Con Ed Tours*. Indicate a first, second, and third choice of dates for *The Winter Revels*.

Name(s) of program(s): _____

Number of tickets and price (please indicate which program if more than one): _____

Total amount enclosed: _____

Name: _____

Address: _____

City: _____ State: _____ Zip: _____

Daytime telephone: _____

Membership category: _____

Please make check payable to the American Museum of Natural History and mail with a **self-addressed, stamped envelope** to: *Workshops and Tours*, Membership Office, American Museum of Natural History, Central Park West at 79th Street, New York, NY 10024-5192.

Our Own Backyard

A Natural History of the Hudson River Valley

Five consecutive Wednesdays, beginning January 19
6:30-8:30 p.m.
Main Auditorium

Our Own Backyard, a five-part lecture series, covers a variety of topics concerning Hudson River ecology, geology, and hydrology. The programs will focus on the ways in which geology and land use in the drainage basin shape habitat and influence ecology. Such factors lead to the formation of distinct communities of fishes and other organisms as water flows from high in the Adirondacks to New York Bay. The biology of these organisms—how and why their numbers fluctuate, the food chain, plants, and habitat—will be examined. In the final session registrants will meet with the speakers in half-hour workshops that focus on areas of special interest.

January 19: "Introduction to the Hudson: Biotic Geography," C. Lavett Smith, AMNH; "Geology of the Valley," Sidney Horenstein, AMNH.

January 26: "Environment of the Hudson Valley: Climatology," Irv Gikofsky, meteorologist, WPIX and CBS-FM; "Hydrology," Ward

Freeman, US Geological Survey.

February 2: "Botany and Zoology of the River: Plants," Stuart Findlay, Institute of Ecosystem Studies; "Invertebrates," Robert Daniels, NY State Museum.

February 9: "Zoology of the River: Birds," Dennis Mildner, Hudson River Estuarine Research Reserve; "Amphibians and Reptiles," Michael Klemens, AMNH Department of Herpetology and Ichthyology; "Mammals," James Rod, National Audubon Society.

February 16: Specialty workshops with speakers of registrants' choice.

Registration fees are \$100 for Members and \$120 for non-Members for the series without credit, and \$160 for credit. Individual lectures may be attended on a space-available basis; tickets are \$25 for Members, \$30 for non-Members, and \$10 for students and senior citizens.

Participants who register for college credit will be required to attend the five lectures, perform one of several

available laboratory experiments, and complete a take-home final exam.

The January 19 program will feature a welcome by William T. Golden, chairman of the American Museum. The series' program directors are C. Lavett Smith, curator emeritus of the Department of Ichthyology, and John Waldman, research associate at the Hudson River Foundation. *Our Own Backyard* is presented by the Friends of Fishes Committee of the Department of Ichthyology and the Hudson River Foundation. All proceeds benefit the Department of Ichthyology.

For further information call Friends of Fishes at (212) 289-3605 or fax (212) 360-6625. To register, make your check payable to Friends of Fishes/AMNH, enclose a stamped, self-addressed envelope, and mail to: *Our Own Backyard*, Friends of Fishes, Department of Ichthyology, American Museum of Natural History, 79th Street and Central Park West, New York, NY 10024-5192.

Discover

Explore our Naturemax Dinner Theater Package

See our latest features:

Tropical Rain Forest and Antarctica

Includes a complete dinner entree,
appetizer or dessert and coffee
per person **\$21.00**

Hours

Lunch, Mon. - Fri: 11:30 - 3:30

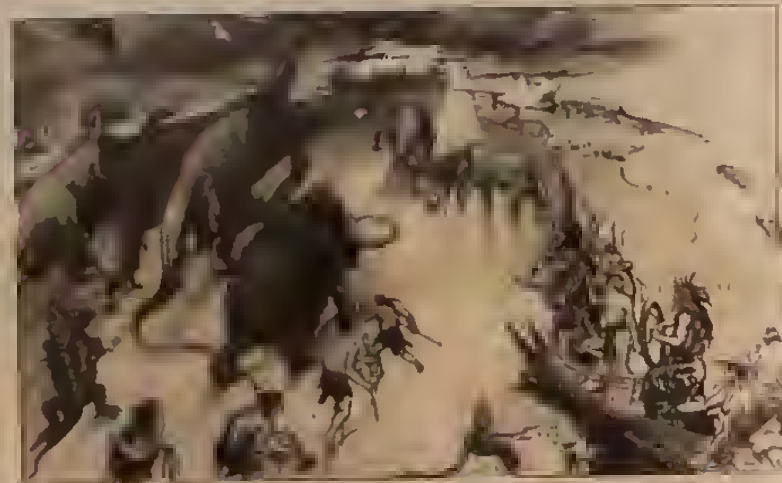
Saturday and Sunday Brunch: 11:00 - 4:00

Dinner seating, Fri. - Sat: 5:00 - 7:30

For Reservations call 212-769-5865



Member-Get-a-Member



1920 drawing by Edwin S. Christian AMNH

What could be better than sharing the benefits and privileges of Participating membership with friends and relatives?

Use the form below to recommend friends or relatives for Museum membership, and we'll send them information and an applica-

tion. When someone you recommend for membership becomes a Participating Member of the Museum, we'll thank you with a \$10 coupon to apply toward your next Participating membership renewal. This form must be used to qualify for the \$10 coupon.

Membership Services, American Museum of Natural History, Central Park West at 79th Street, New York, NY 10024-5192.

These folks may be interested in Participating membership:

1. Name: _____

Address: _____

City: _____ State: _____ Zip: _____

2. Name: _____

Address: _____

City: _____ State: _____ Zip: _____

My name is: _____

Address: _____

City: _____ State: _____ Zip: _____

TZMG

Striped Bass Tag and Release in NY Harbor

Friday, November 26

Friends of Fishes and the Hudson River Foundation present the second annual day-after-Thanksgiving outing at which participants will catch, tag, and release striped bass.

At 8:30 a.m., on Friday, November 26, anglers will board the *Miss Elizabeth* at South Street Seaport. A first-class fishing vessel with a heated cabin, the *Miss Elizabeth* is captained by Joe Pe-

plowski. Participants will be accompanied by John Waldman of the Hudson River Foundation, curators from the Department of Ichthyology, Friends of Fishes scientific adviser Tom Lake, Captain Joe Shastay, and baykeeper Andy Wilner. Soup, sandwiches, beer, wine and cheeses, fruit, and sweets will be served, and all fishing gear will be provided.

For additional information

call Friends of Fishes at (212) 289-3605 or fax (212) 360-6625.

To register, make your check for \$60 payable to Friends of Fishes/AMNH and mail with a self-addressed, stamped envelope to: *Friends of Fishes*, Department of Ichthyology, American Museum of Natural History, 79th Street at Central Park West, New York, NY 10024-5192.

Cuba: Nature of an Island

Scientists from the American Museum and the *Musea Nacional de Historia Natural* in Havana have explored Cuba's remarkable flora and fauna together since 1989. An exhibition of photographs and specimens in the Akeley Gallery that illustrates some of the results of this unusual joint project will be on display through January 3.



Happenings at the Hayden

Lecture

Frontiers in Astronomy and Astrophysics

On Tuesday, November 16, at 7:30 p.m., Steve Maran of the NASA Goddard Space Flight Center will present an illustrated lecture, "Hubble Space Telescope Update." He'll discuss the latest findings from orbit and preview the HST's first rescue mission.

This lecture is part of the *Frontiers in Astronomy and Astrophysics* series. Tickets are \$6 for Participating and Higher Members and \$8 for non-Members. For information about ticket availability and upcoming lectures call (212) 769-5900.

Sky Show

Orion Rendezvous...A Star Trek® Voyage of Discovery

Climb aboard the starship *Antares* for a cosmic journey. Actor LeVar Burton joins the crew as Lieutenant Commander Geordi La Forge, the character he plays on *Star Trek: The Next Generation*®. Enter the twenty-fourth century and journey to a place where six suns blaze in the sky, and then voyage to a sun 100 million times bigger than our own. Discover where stars are born and explore the galactic graveyard of a star that died in one of the most powerful explosions in the universe. Space enthusiasts and *Star Trek* fans alike will know that they have gone where no planetarium audience has gone before.

Showtimes through Nov. 22:

Mon.-Fri. 1:30 and 3:30 p.m.
Sat. 11:00 a.m. (except for Nov. 6), 1:00,
2:00, 3:00, 4:00, and 5:00 p.m.

Sun. 1:00, 2:00, 3:00, 4:00, and 5:00 p.m.

Showtimes Nov. 24-Jan. 2:

Mon.-Fri. 2:30 p.m.
Sat. 11:00 a.m. (except for Dec. 4),
2:00 and 4:00 p.m.

Sun. 2:00 and 4:00 p.m.

Star of Christmas Nov. 24-Jan. 2

At this holiday program, viewers gaze out on a clear winter's night and travel back nearly 2,000 years to explore the skies of the first Christmas. Just what led the Wise Men to Bethlehem? Was it a special star that no one else had seen before? A comet? Or something else? Join us for this special holiday tradition.

Showtimes:

Mon.-Fri. 1:30 and 3:30 p.m.
Sat. and Sun. 1:00, 3:00, and 5:00 p.m.

The Planetarium is closed on Thanksgiving Day. Thursday, Nov. 25. On Fri., Nov. 26, *Orion Rendezvous: A Star Trek® Voyage of Discovery* will be shown at 1:00 and 3:00 p.m. Performance times for *Star of Christmas* will be noon, 2:00 and 4:00 p.m.

Admission to the Sky Show for Participating and Higher Members is \$6 for adults and \$3.50 for children ages 2 to 12. Prices and schedules subject to change without notice. For non-Members' prices and additional information, call (212) 769-5100.

Exhibition

Star Trek® Exhibition: A Retrospective of the Sixties

Alien costumes, Starfleet uniforms, *Enterprise* models, and assorted props and photos from Paramount's original 1960s television series are on display in a special exhibition curated by the National Air and Space Museum. Explore the historical, political, social, and cultural themes incorporated into the weekly *Star Trek*® series. For information call (212) 769-5100.

Holiday Concert

The Planetarium's *Tenth Annual Holiday Concert Under the Stars* will feature the New York Philomusica. On Wednesday, December 15, and Thursday, December 16, at 7:30 p.m., the performers will play a special selection of music from the baroque to the present and beyond. The Planetarium's magnificent starry sky, dazzling laser lights, and special effects combine to make this a unique holiday experience.

Participating and Higher Members are entitled to four tickets at \$15 each. Additional tickets may be purchased at the non-Members' price of \$18 each. Use the coupon at right to register, and for further information call (212) 769-5900.

Children's Shows

Wonderful Sky is a special Sky Show for preschoolers. Children sing along with images of their favorite Sesame Street Muppets as they learn about rainbows, the phases of the moon, sunsets, and stars. Sat., Nov. 6, at 10:30 a.m., and Sat., Dec. 4, at 10:30 and 11:45 a.m. Admission for Participating and Higher Members is \$6 for adults and \$3.50 for children. Members can purchase up to four tickets at the Members' price.

Shows usually sell out in advance; reservations, by mail only, are necessary. Make your check payable to the Hayden Planetarium (Attn: *Wonderful Sky*, Central Park West at 81st Street, New York, NY 10024), indicate membership category and a first and second choice of showtimes, and include a self-addressed, stamped envelope and your daytime phone number. For additional information, call (212) 769-5900.

Robots in Space features Lucasfilm's R2D2 and C-3PO® and has been created especially for children ages 7 to 12. Together with a live host, these famous space robots take children on a tour of the universe. See how satellites and probes — the real space robots — help us learn about worlds near and

far. Journey from the earth to other planets and distant black holes. Sat., Nov. 6, and Sat., Jan. 8, at 11:45 a.m. Admission for Participating and Higher Members is \$4 for adults and \$2 for children. For additional information, call (212) 769-5900.

Eclipse Talk

On Monday, November 15, at 6:30 p.m., meteorologist Joe Rao will present an illustrated talk about the total eclipse of the moon that will take place on November 29. For tickets information, call (212) 769-5900.

Laser Shows

Journey into another dimension where laser visuals and rock music combine to create a dazzling 3-D experience of sight and sound. Shows are presented on Fridays and Saturdays at 7:00, 8:30, and 10:00 p.m. For prices and show schedule, telephone (212) 769-5100.

It's always a good idea to call before visiting the Planetarium, since prices, programs, and showtimes are subject to change without notice. For general Planetarium information, call (212) 769-5100.

Holiday Concert. Please indicate a first and second choice.

___ Wed., Dec. 15 ___ Thurs., Dec. 16

Number of Members' tickets at \$15

(no more than 4, please): ___

Number of non-Members' tickets at \$18: ___

Total amount enclosed: ___

Name: _____

Address: _____

City: _____ State: _____ Zip: _____

Daytime telephone: _____

Membership category: _____

Please make check payable to the Hayden Planetarium and mail with a **self-addressed, stamped envelope** to: Concert, Hayden Planetarium, Central Park West at 81st Street, New York, NY 10024-5192.

Please note that ticket orders are subject to availability and cannot be processed without telephone number and stamped, self-addressed envelope. **Do not include ticket requests or checks for American Museum programs.**

Museum Notes

Hours

Exhibition Halls

Mon.-Thurs. & Sun. 10:00 a.m.-5:45 p.m.
Fri. & Sat. 10:00 a.m.-8:45 p.m.

The Museum Shop

Mon.-Thurs. & Sun. 10:00 a.m.-5:45 p.m.
Fri. & Sat. 10:00 a.m.-7:45 p.m.

The Junior Shop

Mon.-Fri. 10:00 a.m.-4:45 p.m.
Sat. & Sun. 10:00 a.m.-5:45 p.m.

The Museum Library

Tues.-Fri. 11:00 a.m.-4:00 p.m.

The Discovery Room

Passes are distributed at the first-floor information desk beginning at 11:45 a.m. Ages 5-10. Children must be accompanied by an adult. Closed on holidays and weekdays.

Sat. & Sun. Noon-4:30 p.m.

The Natural Science Center

For children of all ages and their families. Closed on Mondays and holidays.

Tues.-Fri. 10:30 a.m.-12:30 p.m.

and 2:00-4:30 p.m.

Sat. & Sun. 1:00-4:30 p.m.

Museum Dining

Diner Saurus Fast Service Eatery

Daily 11:00 a.m.-4:45 p.m.

Garden Cafe

Reservations: (212) 769-5865

Lunch: Mon.-Fri. 11:30 a.m.-3:30 p.m.

Dinner: Fri. & Sat. 5:30-7:30 p.m.

Brunch: Sat. & Sun. 11:00 a.m.-4:00 p.m.

Whale's Lair

Fri. 3:00-8:00 p.m.

Sat. Noon-8:00 p.m.

Sun. & most holidays Noon-5:00 p.m.

Snack Carts (at 77th Street & on the first floor of the Roosevelt Memorial Hall)

Sat. & Sun. 11:00 a.m.-4:00 p.m.

Entrances

During Museum hours visitors can enter the building through the 77th Street entrance, the

parking lot entrance (81st Street), or the Roosevelt Memorial Hall entrance (79th Street and Central Park West). **Visitors attending programs after hours can enter the building through the driveway entrance at 79th Street and Central Park West.**

Parking

The Museum's parking lot is located on 81st Street between Central Park West and Columbus Avenue. Space is limited and available on a first-come, first-served basis; fees are \$12 for cars and \$11 for buses. The lot is open from 9:30 a.m. to 9:30 p.m. on Sunday through Thursday and from 9:30 a.m. to midnight on Friday and Saturday.

Hertz Manhattan, located one block away from the Museum at 210 West 77th Street (between Broadway and Amsterdam), offers parking discounts to Members: on Monday through Friday they receive a \$2 discount off regular prices and on Saturday and Sunday Members receive a \$3 discount.

Call the Membership Office at (212) 769-5606 for information about alternative parking.

Sun

Mon

Tue

Wed

Thu

Fri

Sat

1

2 Election Day.

3 7:45 p.m. Amateur Astronomers Association. Linder Theater. Free.

4 Members' Behind-the-Scenes Tours of the Department of Herpetology and Ichthyology. Tickets required. Call the Membership Office at (212) 769-5606 for information.

5

6 11:00 a.m., 1:00 and 3:00 p.m. Chemistry for Kids. Members' family program. Kaufmann Theater. \$6 for Members, \$10 for non-Members. Page 2.

November 1993 American Museum of Natural History



7 10:30 a.m., noon, and 1:30 p.m. Members' Walking Tours of Van Cortlandt Park. \$16, and open only to Participating and Higher Members. Tickets required. Page 2.

8 2:25 p.m. Spotlight Tour: Theodore Roosevelt Memorial. Free.

9 6:00 p.m. Members' Private Viewing of Star Trek Retrospective Exhibition and Sky Show. \$7, and open only to Participating and Higher Members. Page 2.

7:30 p.m. Linnaean Society of NY. Blum Lecture Room. Free.

10 6:30 p.m. NY Mineralogical Society. Room 319. Free.

11 Veterans Day. The Museum is open.

1:45 p.m. Spotlight Tour: Human Biology and Evolution. Free.

12 4:00, 5:30, and 7:00 p.m. Members' Guided Tours of Antarctica. Gallery 3. Free, and open only to Participating and Higher Members. Tickets required. Page 2.

13 9:00 a.m.-6:00 p.m. Members' Day Trip to the Shinnecock Reservation. \$50, and open only to Participating and Higher Members. Tickets required. Page 2.

14 2:00 p.m. NY Shell Club. Room 319. Free.



16 7:30 p.m. Frontiers in Astronomy and Astrophysics. Speaker: Steve Maran, NASA Goddard Space Flight Center. "Hubble Space Telescope Update." \$6 for Members, \$8 for non-Members. Page 7.

17

18 1:45 p.m. Spotlight Tour: Coral Reefs. Free.

7:00 p.m. NY Microscopical Society. Room 319. Free.

19

20



21 10:30 a.m. and 1:30 p.m. Feast of Clay. Members' adult-child workshop. \$26 per couple, and open only to Participating and Higher Members. Tickets required. Page 2.

22

23 11:00 a.m. The Origami Holiday

Tree-Lighting Ceremony will take place in the Roosevelt Memorial Hall. On display through January 9.

7:00 p.m. The Forbes Magazine Collection of Fabergé. Members' evening program. Kaufmann Theater. \$6 for Members, \$9 for non-Members. Page 2.

24



25 Thanksgiving Day. The Museum is closed.

26 8:30 a.m. Striped Bass Tag and Release in NY Harbor. \$60, and open only to Participating and Higher Members. Page 6

27

Spotlight Tours

The Volunteer Office offers a series of free Spotlight Tours, which are conducted by professionally trained Volunteer Highlights Tour guides. The tours are listed throughout the calendar, and topics are subject to change. For additional information about the tours, which depart from the second floor between the Roosevelt Rotunda and the Hall of African Mammals, call (212) 769-5566

Naturemax

The Naturemax Theater presents Antarctica, a thrilling exploration of the highest, driest, coldest, and most mysterious continent on earth. Showtimes for Antarctica are 10:30 and 11:30 a.m., 1:30 and 3:30 p.m. daily. Tropical Rain Forest, which portrays the 400-million-year evolution of these vanishing resources, is shown at 12:30, 2:30, and 4:30 p.m.

On Friday and Saturday at 6:00 and 7:30 p.m., Antarctica is shown on a double bill with Tropical Rain Forest. Schedules and prices are subject to change without notice. Call (212) 769-5650 for further information.

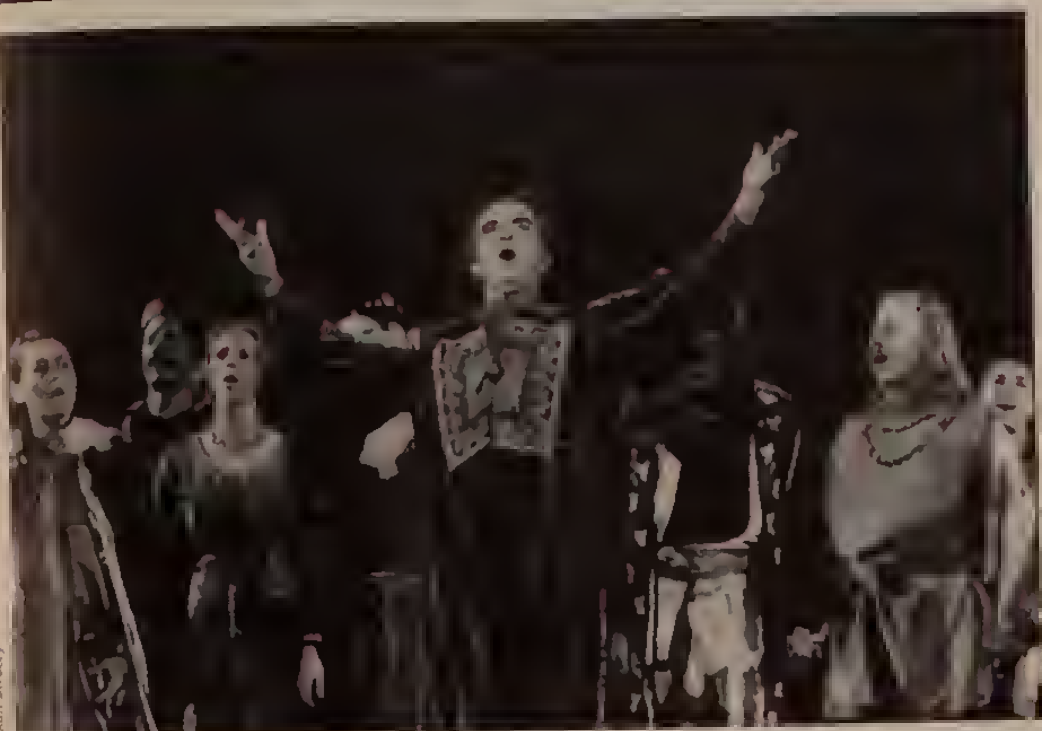
Admission (Participating and Higher Members): Adults: \$4 single feature; \$5.50 double feature Children: \$2 single feature; \$3 double feature

The Museum receives substantial support from a number of major sources. We are particularly grateful to the City of New York, which owns the Museum buildings and provides funds for their operation and maintenance, and to the New York State Council on the Arts, National Science Foundation, National Endowment for the Arts, National Endowment for the Humanities, Institute for Museum Services, 300 Arts, National Endowment for the Humanities, 520,000 members, and numerous individual corporations, 100 private foundations.

ROTUNDA

For Participating and Higher Members of the American Museum of Natural History

Vol. 18, No. 11 December 1993



Revels founder Jack Langstaff will perform in celebration of the Revels' fifteenth year in New York

The New York Revels

The Winter Revels

Monday, December 6, through Thursday, December 9
7:30 p.m., Main Auditorium
\$12 for all children, \$17 for Members, \$22 for non-Members
Sign language performance on December 9

Merrymakers in the Museum's Main Auditorium will find themselves transported to a medieval village when the New York Revels reenact the pageants and myths of medieval England. A cast of 70 children and adults will perform carols, processions, traditional folk songs and dances, poetry, and rituals associated with the winter solstice. By singing familiar folk songs and dancing in the aisles with the cast, the audience joins in the spirit of *The Winter Revels*.

The heart of the Revels is community participation. A nonprofit organization, Revels is dedicated to teaching people by imparting timeless traditions that bond participants together

as companions in celebration.

Among the festivities will be a "feast of fools" ritual, in which a Lord of Misrule is chosen from the audience. A group of mummers will appear in the folkplay of Saint George and the Dragon and perform a traditional sword dance. Musical selections will include the Boar's Head ceremonial carol, sung for centuries in the dining hall at Christ's Church, Oxford; the Wassail song, sung as a village celebration with mimed "animals" of the farm; and pagan carols such as "The Holly and the Ivy" and the ritual "Hunting of the Wren" song, whose sources date back to the days of sun, animal, and vegetation worship. A

brass quintet with timpani will perform an early music repertoire and accompany the chorus and audience in participatory segments, including a grand choral piece with handbells.

The company's first *Christmas Revels*, held in Cambridge in 1971, was a glowing mix of medieval and Renaissance song and dance. This vibrant new kind of theater — a vaudeville-style format with folk music, dances, and skits that revolve around an ancient ceremonial theme — has spread to nine American cities to date. Jack Langstaff, the Revels founder, will be returning to New York to perform in celebration of the Revels' fifteenth year in New York.

Performances will take place nightly from Monday, December 6, through Thursday, December 9. The Garden Cafe will be open each evening from 5:00 to 7:00 p.m. Reservations are recommended; call (212) 769-5865. Use the coupon on page 5 to register for the program.

The New York Revels will be collaborating with City Harvest, a not-for-profit organization committed to feeding the homeless, on a canned-food drive during the evenings of the Revels performances. Please bring canned goods with you to the performance to share with the homeless of New York. A container for collecting the goods will be provided.

Members' Tours of the

Con Edison Plant

Thursday, Dec. 2
SOLD OUT

Sidney Horenstein, the Museum's coordinator of public programs, will lead a tour of the Con Edison plant at West 59th Street. Participants will see the generator and learn about how it supplies local power. They'll observe all of the facility's operations, including the production of steam that's used to drive the turbines that generate electricity.

This tour involves extensive walking and stair climbing; participants should be confident in their ability to keep pace with the group.

Tours will take place at 4:00 and 6:00 p.m. Tickets are \$16 and available only to Participating and Higher Members ages 16 and older.

A Day with the Dinosaurs

Saturday, Dec. 4

On a day trip to the Philadelphia Academy of Natural Sciences, Members will take a private behind-the-scenes tour and a guided tour of the academy's permanent dinosaur exhibits. They'll also explore the special exhibition *Jurassic Park: The Science Behind the Mayhem*, which looks at the benefits and risks of genetic engineering.

The brief behind-the-scenes tour will be led by the head of the academy's vertebrate paleontology department, and a docent will guide Members around the permanent exhibits. Participants will visit the *Jurassic Park* exhibition on their own to learn about modern-day descendants of the dinosaurs and recent discoveries about dinosaur behavior, size, and physiology.

June Myles will accompany Members on the trip, which will depart from the American Museum by bus at 9:00 a.m. and return at 6:30 p.m. (The drive is about two hours each way.) Tickets are \$50 and available only to Participating

and Higher Members ages 10 and older. Call the Membership Office at (212) 769-5606 for information about ticket availability.

Endangered Species:

Restoring the Black Howler Monkey

Friday, Dec. 10

There were no black howler monkeys in southern Belize for more than a decade until an ambitious conservation program reestablished them in the Cockscomb Basin. Fred Koontz, curator of mammals at the Bronx Zoo/Wildlife Conservation Park, has worked with a team of scientists for the last two years on reintroducing howlers to the basin. Koontz will describe how wild howlers were captured from a healthy population in northern Belize, transported, and after an acclimation period, released into a 100,000-acre nature preserve.

This program is presented in observance of the twentieth anniversary of the Endangered Species Act, a legislative landmark in conservation. The lecture will begin at 7:00 p.m. in the Kaufmann Theater. Tickets are free for Members and \$8 for non-Members. Use the coupon on page 3 to order tickets.

Origami Holiday Workshops

Saturday, Dec. 11

Deck the halls with origami after some expert instruction at the fifteenth annual Origami Holiday Workshops. Members of the Friends of the Origami Center of America will be on hand to instruct Members of all ages in the engaging art of paperfolding.

Workshops are available at three levels: a Young Children's Workshop, geared toward 4- to 6-year-olds, at which children must be accompanied by an adult; a Beginners' Workshop for participants ages 6 and older; and an Intermediate Workshop for more experienced hands who are comfortable

with origami folds such as mountains and valleys, rabbit ears, inside-reverse, and squash folds.

All participants will receive origami paper and instructions to take home. The workshops will take place at 10:30 and 11:30 a.m. and 2:00 and 3:00 p.m. There is a \$2 materials fee per person, and tickets are available only to Participating and Higher Members. Use the December Members' programs coupon on page 3 to register.

Valley Forge: 100 Years of Preservation

Wednesday, Dec. 15

The Continental Army of 1778 endured the winter of their discontent at Valley Forge, a Pennsylvania encampment that's synonymous in American history with courage in the face of hardship. The revolutionary warriors didn't find their glorious summer until four years later at Yorktown, but the hard lessons learned at Valley Forge contributed greatly to their ultimate triumph.

The campsite was named a national historical park in 1893 and at Valley Forge: 100 Years of Preservation park superintendent Warren D. Beach will talk with Members about the site's management and development over the last century.

The program will take place at 7:00 p.m. in the Kaufmann Theater. Tickets are \$7 for Members and \$10 for non-Members; use the coupon on page 3 to register.

Members' Workshop

Deciphering the Human Skeleton

Thursday, Dec. 16

SPACE MAY BE AVAILABLE

An introductory workshop that examines the analyses and limits of forensic anthropology, *Deciphering the Human Skeleton* will demonstrate how much information about an individual can be reconstructed when only the bones remain. The workshop will be presented by Jeffrey Schwartz, professor of anthropology at the University of Pittsburgh and research associate in anthropology at the American Museum. The program, which will take place from 5:30 to 7:30 p.m., will begin with a slide-lecture and conclude with an examination of specimens.

Tickets are \$40 and available only to Participating and Higher Members. Enrollment is limited, and a reading list will be provided upon registration. Call the Membership Office at (212) 769-5606 for ticket availability.

Members' Adult-Child Workshop

Make a Holiday Gingerbread House

Saturday, Dec. 18, or Sunday, Dec. 19
SOLD OUT



Build the gingerbread house of your dreams at the Members' annual workshops, in which June Myles will show parents and kids how to raise the beams and assemble the structure of their no-bake houses. Then a colorful assortment of cookies, gum-

drops, jelly beans, and other candies will make up the trimmings.

The 90-minute workshops will take place at 10:30 a.m. and 1:30 p.m. each day and are geared toward children between the ages of 5 and 10.

ROTUNDA

ISSN 0194-6110

Vol. 18, No. 11
December 1993

Donna Bell — Editor
Sheila Greenberg — Manager of Membership Services
Angela Soccodato — Designer
Rita Campon — Copy Editor
Yolanda Lofton — Fulfillment Coordinator
Risa Miller — Program Coordinator

Rotunda, a publication for Participating and Higher Members of the American Museum of Natural History, is published monthly September through June, bimonthly July and August. Publication offices are at *Natural History* magazine, American Museum of Natural History, Central Park West at 79th Street, New York, NY 10024-5192. Telephone: (212) 769-5606. Subscriptions: \$50 a year for Participating Membership; \$100 a year for Contributor Membership. © 1993 American Museum of Natural History. Second-class postage paid at New York, NY. Postmaster: Please send address changes to: *Rotunda*, Membership Office, American Museum of Natural History, Central Park West at 79th Street, New York, NY 10024-5192.

Statement of ownership, management, and circulation: Title of publication: *Rotunda* (ISSN 0194-6110). Date of filing: Sept. 29, 1993. Frequency of issue: Monthly except for July/August issue. Number of issues published annually: 11. Annual subscription price: \$50 a year for Participating Members; \$100 a year for Contributor Members. Complete mailing address of known office of publication: Central Park West at 79th Street, New York, NY 10024-5192. Complete mailing address of the headquarters or general business offices of the publishers: Same. Publisher: L. Thomas Kelly, American Museum of Natural History, Central Park West at 79th Street, New York, NY 10024-5192. Editor: Donna Bell, American Museum of Natural History, Central Park West at 79th Street, New York, NY 10024-5192. Managing Editor: None. Owner: American Museum of Natural History, Central Park West at 79th Street, New York, NY 10024-5192. Known bondholders, mortgages, and other security holders: None. The purpose, function, and nonprofit status of this organization and the exempt status for Federal income tax purposes has not changed during the preceding 12 months. Extent and nature of circulation: (A) signifies average number of copies of each issue during preceding 12 months, and (B) signifies average number of copies of single issue published nearest to filing date. Total number of copies: (A) 33,570 (B) 39,252. Paid and/or requested circulation — sales through dealers and carriers, street vendors, and counter sales: (A) None (B) None. Mail subscription: (A) 32,586 (B) 38,452. Total paid and/or requested circulation: (A) 32,586 (B) 38,452. Free distribution by mail carrier, or other means — samples, complimentary, and other free copies: (A) 866 (B) 500. Total distribution: (A) 33,452 (B) 38,952. Copies not distributed: (A) 118 (B) 300. Return from news agents: (A) None (B) None. Total: (A) 33,570 (B) 39,252. I certify that the statements made by me above are correct and complete. (signed) Donna Bell, Editor
Printed by Waldon Press, Inc. New York



A Day with the Dinosaurs

Ancient Egyptian Jewelry

Thursday, January 6

7:00 p.m.

Kaufmann Theater

\$6 for Members, \$9 for non-Members



Pectoral (chest ornament) belonging to Princess Sit-hothor-yunet, the daughter of Pharaoh Sesostris II, who ruled during the twelfth dynasty (c. 1900-1870 BC)

The symbolism of ancient Egyptian jewelry is the focus of a Members' program presented by Robert Steven Bianchi, a former J. Clawson Mills Fellow at the Metropolitan Museum of Art. The slide lecture will explore the materials used in the creation of ancient Egyptian jewelry. Focusing on chest ornaments

found in the tomb of Tutankhamen, Bianchi will explain the symbolic properties of these materials and the ways in which color enhances their symbolic value.

Bianchi served as curator of the Egyptian Department at the Brooklyn Museum for 15 years, during which time he organized the international

loan exhibition *Cleopatra's Egypt — Age of the Ptolemies*. His latest book, *Inside the Tomb of Nefertiti*, was published last year. (Bianchi will also offer a one-day symposium on ancient Egyptian sculpture; see the related feature below.)

Use the coupon at right to register.

Members' Symposium

Ancient Egyptian Sculpture

Saturday, January 22

10:30 a.m.-3:30 p.m.

\$60, and open only to Participating and Higher Members

A one-day symposium will trace the history of Egyptian sculpture, from practical factors such as the quarrying and transportation of the stones to aesthetic considerations such as the symbolic relevance of statuary to Egyptian society and the development of sculpture through the eighteenth dynasty and beyond.

The symposium will be presented by Robert Steven Bianchi, who will also host a Members' program on ancient Egyptian jewelry (see the related article above).

In the first lecture, "Stones and Processes," Bianchi will offer an overview of the variety of stones used in ancient Egyptian statuary and the sources for these stones. He'll use information from pictorial representations found in

tombs and temples to describe the methods of extracting stones from quarries, transporting them, and sculpting them into statues.

"Sculpture and Symbolism," the second lecture, presents Egyptian civilization in terms of its cultural symbolism. Bianchi will explore the connotations of stones such as quartzite, which is charged with solar implications and thus an appropriate stone for images relating to Amun. He'll also discuss the significance of statue placement within ancient monuments.

The concluding lecture will define the development of ancient Egyptian sculpture as a dialectic between tradition and innovation. Bianchi will focus on the art of the eighteenth dynasty, which fea-

tures the best evidence of this dialectic, particularly with the Amarna Period of Akhenaten and its aftermath. Sculptural traditions are defined by the elite ruling class, at the head of which is the pharaoh, and each succeeding generation inherits the sculptural norms established by its predecessors. Bianchi will suggest ways in which the inherited sculptural traditions of the early eighteenth dynasty might be modified in order to create the seemingly new styles and forms of the Amarna Period.

The lectures will take place from 10:30 a.m. to 12:30 p.m. and 1:30 to 3:30 p.m. A buffet lunch is included in the fee. Use the coupon on page S to register, and please note that tickets are available only by mail.

December Members' Programs Coupon

Name: _____

Address: _____

City: _____ State: _____ Zip: _____

Daytime telephone: _____

Membership category: _____

Total amount enclosed: _____

Please make check (if applicable) payable to the American Museum of Natural History and mail with a **self-addressed, stamped envelope** to: *December Members' Programs*, Membership Office, American Museum of Natural History, Central Park West at 79th Street, New York, NY 10024-S192. **Telephone reservations are not accepted. No refunds or exchanges.**

Unless otherwise indicated, no more than eight tickets may be ordered for a program. Participating Members are entitled to four tickets per program at the Members' price. Higher Members are entitled to six tickets, and Associate Members are entitled to one ticket.

Endangered Species. Friday, December 10, 7:00 p.m.

Number of free Members' tickets

(no more than 2, please): _____

Number of additional Members' tickets at \$5: _____

Number of non-Members' tickets at \$8: _____

Total amount enclosed for program: _____

Origami Holiday Workshops. Saturday, December 11. Please indicate workshop level and a first, second, and third choice of times.

____ Young Children's Workshop

____ Beginners' Workshop

____ Intermediate Workshop

____ 10:30 a.m. ____ 11:30 a.m.

____ 2:00 p.m. ____ 3:00 p.m.

Number of Members' tickets at \$2: _____

Total amount enclosed for program: _____

Valley Forge. Wednesday, December 15, 7:00 p.m.

Number of Members' tickets at \$7: _____

Number of additional tickets at \$10: _____

Total amount enclosed for program: _____

Ancient Egyptian Jewelry

Thursday, January 6, 7:00 p.m.

Number of Members' tickets at \$6: _____

Number of additional tickets at \$9: _____

Total amount enclosed for program: _____

The Coral Reef at Night. Tuesday, January 11, 7:00 p.m.

Number of Members' tickets at \$7: _____

Number of additional tickets at \$10: _____

Total amount enclosed for program: _____

An Initiation Kut. Friday, January 14, 7:00 p.m.

Number of free Members' tickets

(no more than 2, please): _____

Number of additional tickets at \$5: _____

Number of non-Members' tickets at \$8: _____

Total amount enclosed for program: _____

Sea Monsters. Thursday, January 27, 7:00 p.m.

Number of Members' tickets at \$8: _____

Number of additional tickets at \$11: _____

Total amount enclosed for program: _____

Shoestring Players. Saturday, January 29.

Indicate a first and second choice.

____ 1:30 p.m. ____ 3:30 p.m.

Number of Members' tickets at \$6: _____

Number of additional tickets at \$10: _____

Total amount enclosed for program: _____

NOTE: Orders received less than ten days before show dates will be held for pick-up at the door on the day of the program if tickets are still available. If an event is sold out, you will be advised in writing or by phone and your check will be returned. Babies in arms or strollers will not be admitted to programs.

The Shoestring Players Present

Ladders to the Sky

Saturday, January 29
1:30 and 3:30 p.m.

Kaufmann Theater
\$6 for Members, \$10 for non-Members
Ages 5-12



The Shoestring Players

The ever-popular Shoestring Players return to the Museum next month for *Ladders to the Sky*, an energetic performance of four folktales from around the world. The players combine dance, acting, and storytelling with a touch of mime, singing, and stand-up comedy in their performances. These original adaptations of less-familiar folktales are certain to captivate young audiences. Shoestring productions use only minimal costumes and no sets at all, calling on the audience's imagination as the players create fountains with their fingers, beds with their bodies, a boiling caldron with their voices, and much more.

In "Water of Life," an adventure from Germany, a prince journeys far and wide to find a cure for his ailing father. Undaunted by jealous brothers and banishment from his kingdom, the brave prince shows selfless generosity to an old woman and finds his reward in an enchanted castle.

A comedy from Russia, "Pampalche of the Silver Teeth" is the story of a beautiful young woman with a smile so bright it blinds all beholders. Her fisherman father has an unfortunate meeting with an ogre that

results in Pampalche's betrothal, and in a wild and hilarious chase the heroine is pursued to a happy ending.

"Ladders to the Sky," a drama from the Northwest Coast Indians, tells the ancient tale of Lupan and Lupanwenza, the father and mother of all people. One evening, as the sun is setting, Lupanwenza is lured into the night sky by Snoqualme, the spirit of the night. Lupan builds an arrow ladder to the stars to save her, and they escape with Snoqualme hot on their trail. Lupan fools Snoqualme, shattering the arrow ladder, and Snoqualme is trapped forever as the face of the moon.

In the Sicilian comedy "Meatloaf," Ninetta longs for a handsome prince while she helps her aunt, Zia Maria, make the perfect meatloaf. While Ninetta daydreams, a shaggy dog steals the meatloaf, and Ninetta chases the dog into Prince Guido's garden, where she finds love at first sight.

The program is about an hour long, with a brief intermission, in which actors and audience participate in a creative-dramatics adventure. Use the coupon on page 3 to register.

The Coral Reef at Night

Tuesday, January 11

7:00 p.m.

Kaufmann Theater

\$7 for Members, \$10 for non-Members

"Nothing," asserts marine biologist Joseph Levine, "can fully prepare you for night diving in a tropical sea. Properly equipped, you float, weightless, in an alien medium. Without the sun overhead, the distinction between 'up' and 'down' becomes a concept rather than a reality.

"Water that beckons invitingly by day greedily swallows the beam of even the strongest underwater searchlight, limiting vision to an uncomfortably small sphere. Anything beyond the reach of that light is unseen and unseeable. And what your flashlight does reveal assures you that you're not in Kansas (or, for that matter, Manhattan) anymore. For darkness transforms the brightly colored, whimsical daytime reef into a

murky, alien world, filled with ambiguous shapes and brooding shadows."

Levine will introduce Members to this little-known shadow world, using breath-taking photographs by underwater photographer Jeffrey Rotman and describing personal observations. At *The Coral Reef at Night* he'll discuss the transformations that occur as afternoon fades first to twilight and then to total darkness. With darkness comes "rush hour" on the reef, when aquatic commuters change shifts in an undersea metropolis with no police force, no lights on streets or in buildings, and no social code governing behavior. The resulting struggle between predator and prey has shaped the most prolonged and elaborate changing of the guard in

the natural world. In addition to describing the delights and the perils of diving at night, Levine will explain why night diving with a camera can be an underwater photographer's dream come true.

A writer, filmmaker, and science educator, Levine is vice president of Boston Science Communications and an associate in the Fish Department at Harvard University's Museum of Comparative Zoology. His research on the physiology, ecology, and evolution of vision in aquatic animals, conducted between Harvard and the Marine Biological Laboratory in Woods Hole, has appeared in journals such as *Science* and *Scientific American* and in several books.

Use the coupon on page 3 to register.



Bigeye, a nocturnal visitor to the coral reef

Sea Monsters during the Age of Dinosaurs

Thursday, January 27

7:00 p.m.

Kaufmann Theater

\$8 for Members, \$11 for non-Members

During the Mesozoic Era (approximately 245 to 65 million years before present), the biggest predators in the world's oceans were reptiles. Although not related to the dinosaurs inhabiting the land environments, some of the aquatic reptiles were almost as large, reaching lengths of 40 feet. Ichthyosaurs, plesiosaurs, geosaurs, and mosasaurs were the prehistoric counterparts of today's whales, dolphins, and sea lions.

The first ichthyosaurs to appear on earth had a build similar to that of geosaurs and mosasaurs, which appeared much later in the Mesozoic. These were long-bodied, crocodile-like predators

that exhibited many adaptations for rapid acceleration. They probably used an ambush mode of attack to capture prey, lying in wait for their quarry and capturing them with a quick lunge. The later ichthyosaurs, however, displayed several adaptations for fast, continuous swimming, including a streamlined shape, a dorsal fin, and a crescent-shaped tail. Their superficial resemblance to living dolphins is striking and suggests that ichthyosaurs, like dolphins, were pursuit predators, swimming over large areas in search of prey. The plesiosaurs include both pursuit and ambush predators. They were unique

among the marine reptiles in that they swam with two pairs of wing-shaped limbs for underwater "flying."

Paleontologist Judy Massare, who teaches earth science at SUNY Brockport, is a specialist in the study of extinct marine reptiles. She'll talk with Members about her investigations into the tooth shape and the biomechanical aspects of swimming in prehistoric aquatic predators and the ways in which these studies reflect interesting patterns of extinction and ecological replacements.

Use the December Members' programs coupon on page 3 to register for the program.

Members' Workshop

Identifying Rocks and Their Minerals

Wednesdays, January 19 and 26
5:30-7:30 p.m.
\$40, and open only to Participating and Higher Members
Ages 16 and up

For Members who can't tell an igneous rock from a sedimentary rock from a metamorphic rock, but would like to — here's the chance. Geologist Sidney Horenstein, the Museum's coordinator of environmental public programs, will host a workshop that shows how to identify and classify the major groups of rocks and how to recog-

nize the indicators of their geological significance. Participants will learn about the minerals that are the building blocks of rocks from actual specimens and Museum exhibits. After the two-part workshop they will not take any rock for granite. Use the coupon below to register. Tickets are available only by mail.



Monhattan mica schist along Riverside Drive

Membership Workshops and Tours and The Winter Revels. Use this coupon to register for *Identifying Rocks and Their Minerals* and *Members' Symposium on Ancient Egyptian Sculpture*. Indicate a first and second choice of times for *Members' Guided Tours of the Forbes Magazine Galleries*. Indicate a first, second, and third choice of dates for *The Winter Revels*.

Name(s) of program(s): _____

Number of tickets and price (please indicate which program if more than one): _____

Total amount enclosed: _____

Name: _____

Address: _____

City: _____ State: _____ Zip: _____

Daytime telephone: _____

Membership category: _____

Please make check payable to the American Museum of Natural History and mail with a **self-addressed, stamped envelope** to: *Workshops and Tours*, Membership Office, American Museum of Natural History, Central Park West at 79th Street, New York, NY 10024-5192.

Members' Guided Tours of the

Forbes Magazine Galleries

Thursday, January 20
11:00 a.m. and 3:00 p.m.
\$10, and open only to Participating and Higher Members
Ages 16 and up

"My father loved collecting, and my brothers and I share this passion," wrote publisher Malcolm S. Forbes, Jr. "Collectibles are not inanimate objects but are stimuli for the imagination. . . . That's what makes these galleries unique; they bring things to life."

Members can venture through an imaginative world of toy soldiers and boats, trophies, presidential memorabilia, and Fabergé luxury items on guided tours of the *Forbes Magazine Galleries*.

They'll see a history of the toy soldier in a series of dioramas and vignettes, featuring inch-high Aztecs and conquistadors, cowboys and Indians, jousting knights, and GIs and Doughboys. The galleries' trophies range from the prize for the best pen of White Leghorn chickens at the Northampton Egg Laying Trials to a variety of urns, trophies, and loving cups.

Selections from the magazine's 3,000 American historical documents and related items are featured among the exhibition of presidential papers. Highlighting the larger gallery are four miniature



A miniature of Thomas Jefferson's bedroom and study at Monticello (scale: 1 inch to 1 foot), on display among the presidential manuscripts and memorabilia

rooms — Washington's headquarters for the Battle of Yorktown, John Adams' kitchen law office in Braintree, Jefferson's study at Monticello, and the dining room of Grant's Illinois house.

Twelve of the famed imperial Easter eggs made by the House of Fabergé for the last two czars of Russia are among the more than 300 fantasies and objets de luxe on display. This selection of treasures made under the

direction of master jeweler/goldsmith Peter Carl Fabergé is from the largest private collection of his firm's work in the world.

The tours, which will last approximately one hour, will be led by a curator. The galleries are located on the ground floor of the Forbes Building, 62 Fifth Avenue, at the corner of 12th Street. Use the coupon below to register, and please note that tickets are available only by mail.

An Initiation Kut for a Korean Shaman

Friday, January 14
7:00 p.m.
Kaufmann Theater
Free for Members,
\$8 for non-Members

When Korean women need to honor household gods, expel ghosts, or solve other problems rooted in the supernatural, they sometimes consult shamans. These professional contacts with the spirit world are introduced to their vocation at a ceremonial kut, after which they serve as apprentice spirit daughters to experienced shamans, learning chants, dances, and ritual lore.

Anthropologist Laurel Kendall will show Members her film, *An Initiation Kut for a Korean Shaman*, in which they'll see a kut and learn of the events leading up to it. Thirty-two-year-old Chini is convinced that she is destined to be a shaman and that she will know only hardship and misery until her



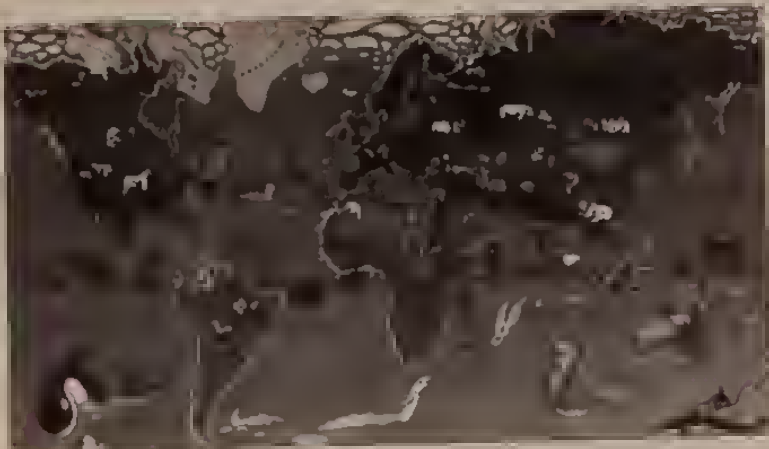
Filming the ceremony

successful initiation. At this ritual, Chini must demonstrate her ability to perform like a shaman, shouting out the spirits' revelations. Her teachers coax, scold, and instruct her, revealing their own sense of what it means to become a shaman and to perform a kut.

A curator in the Department of Anthropology, Kendall is the author of *The Life and Hard Times of a Korean Shaman* (1988) and *Shamans, Housewives, and Other Restless Spirits* (1985), both from the University of Hawaii Press. She began her observations on Korean society in 1971 as a

Peace Corps volunteer, and since 1976 she has worked as an anthropologist, focusing on the role of women in contemporary and traditional Korean culture. Her initial research on women and ritual led her to a study of contemporary marriage practices, and she is currently working on a manuscript, *Getting Married in Korea: Of Gender, Morality, and Greed*.

The 1991 documentary, which is 37 minutes long, was filmed by Kendall and Diana Lee. Kendall will introduce the film and answer questions from the audience afterward. Use the coupon on page 3 to register.



its development, its peoples, and its future. Participants will visit all seven continents, the ends of the earth, and the surrounding oceans.

Although these tours are free. Members should reserve spaces by calling the Volunteer Office at (212) 769-5566. Space is limited to 25 people per tour.

Sign Language Tour

Spotlight Tours

The World Tour

**Saturdays,
Dec. 11 and Jan. 22
6:30 p.m.**

**Sundays,
Dec. 12 and Jan. 23
1:00 p.m.**

The Volunteer Office offers a series of Spotlight Tours, which are conducted by professionally trained Volunteer Highlights Tour guides. Tours depart from the second floor between the Roosevelt Rotunda and the Hall of African Mammals. For further information call (212) 769-5566.

Travel around the world in 80 minutes on the American Museum's World Tour, which will feature aspects of geology, astronomy, paleontology, biology, and ecology. On this tour participants will examine the planet — its origin,

Natural History of the Holidays

**Saturday, Dec. 18
1:45 p.m.**

At the end of one year and the beginning of another cultures around the world celebrate in a variety of ways, many of which are rooted in natural history. This annual holiday history tour will trace the origins of festive symbols and traditions. By searching for the meaning behind today's customs, the tours will piece together the meaning and spirit of the holiday season.

Global Cultures in a Changing World

The Education Department offers a series of programs that celebrate diverse cultural groups and their traditions. This month's programs are presented in conjunction with the conclusion of the United Nations' observance of the Year of Indigenous Peoples.

No tickets are necessary for these free programs, but seating is limited and available on a first-come, first-served basis. For further information call the Education Department at (212) 769-5315.

Indigenous and "Mestizo" Music and Dance of the Andes

**Wednesday,
December 1
7:30 p.m.
Main Auditorium**

The world-renowned group Inkay will perform native and "mestizo" music and dance from the mountains of Bolivia, Peru, and Ecuador. Using wind and percussion instruments, they'll play ancient music still performed in South America. Inkay will also demonstrate European influence in Andean music by

playing "mestizo" music on stringed instruments such as charangos, mandolins, harp, and bandurria, and they'll perform popular dances from the Andean region.

Latin American Film Program: Five Centuries Later

**Tuesday,
December 7
7:00 p.m.
Kaufmann Theater**

Guatemalan Indian Rigoberta Menchu, the 1992 Nobel Peace Prize winner, is featured in *Five Centuries Later*, an examination of the current status of Central American aboriginal civilizations. The film portrays the ways in which Central American Indians have struggled to preserve the few surviving traditions of their once-rich civilization, and it considers the possible fate of agrarian communities confronting a shortage of arable land.

Five Centuries Later is a 1992 production of the National Film Board of Canada. The film is 54 minutes long.

Leonhardt People Center

1:00–4:30 p.m.

December 4 and 5

Music of the Indigenous Caribbean. Through music and song, Robert Borrero and Company demonstrate the continuance of Native American culture and tradition in Boriken (Puerto Rico) and throughout the Caribbean.

The Columbian Change. In this slide-illustrated presentation Bobby Gonzalez examines the cultural and biological consequences of 1493, the year Christopher Columbus landed on the island of Boriken.

Preserving Native Traditions. Christina Bryant uses slides and puppets to relate how native people used to live and care for the natural environment and discusses the desirability of reclaiming these ways.

December 11 and 12

Indigenous Dances of Mexico. Members of Mexico: *Images and Traditions* wear colorful costumes as they perform dances of the native peoples of Mexico.

Through Native Eyes. Tchin examines difficulties facing native peoples in contemporary American society, including unrealistic expectations, misconceptions, and Hollywood's cultural misrepresentations.

Indigenous Folklore of Latin America. Argentina Palacios recounts tales of native peoples of Guatemala, Peru, and Panama.

Programs for December 18 and 19 are to be announced. The People Center will be closed on December 25 and 26.

One in a Billion



As many as 50,000 baseball-sized meteorites fall to earth each year but because most of them fall in remote areas, only about 1 in 1,000 is ever found. The chances of a meteorite's landing in a city and hitting an object are one in a billion — but that's exactly what happened last year.

In October of 1992 a football-sized meteorite crashed through the trunk of a 1981 Chevrolet Malibu, leaving a 6-inch crater in the gravel drive-

way and surprising some neighbors. *Celestial Fender Bender: The Peekskill Meteorite*, on display in the 77th Street Lobby, features the car, a cast of the meteorite, and a portion of the actual meteorite. This display includes an analysis of the meteorite's nature and source.

This exhibition, which is on display through next month, is made possible by the generous support of the Arthur Ross Foundation.

Member-Get-a-Member

What could be better than sharing the benefits and privileges of Participating membership with friends and relatives?

Use the form below to recommend friends or relatives for Museum membership,

and we'll send them information and an application. When someone you recommend for membership becomes a Participating Member of the Museum, we'll thank you with a \$10 coupon to apply toward your next Participating membership renewal. This form must be used to qualify for the \$10 coupon.

Membership Services, American Museum of Natural History, Central Park West at 79th Street, New York, NY 10024-5192.

These folks may be interested in Participating membership:

1. Name: _____

Address: _____

City: _____ State: _____ Zip: _____

2. Name: _____

Address: _____

City: _____ State: _____ Zip: _____

My name is: _____

Address: _____

City: _____ State: _____ Zip: _____

The programs presented by the Museum's Education Department are made possible with grants from the Lila Acheson Wallace Fund of the New York Community Trust, Henry Viss Foundation, Inc., the Laverne Cornet House, the Vidda Foundation, Manzano Foundation, Samuel and May Rubin Foundation, William Randolph Hearst Foundation, Howard Hughes Medical Institute, S.H. and Helen R. Schuler Family Foundation, Inc., Norman and Rosita Winston Foundation, Chase Manhattan Bank, Citicorp/Citibank, Chemical Bank, New York State Council on the Arts, Edward S. Moore Foundation, Inc., and the family of Frederick H. Leonard.

TMZG

Current Exhibitions



Antarctica

The history and wildlife of Antarctica are portrayed in a dramatic new exhibition. Penguin dioramas, a mummified seal, three-dimensional models of ice features, and tools used by people who have lived and worked on the continent are among the displays in Gallery 3. Through January 2.

Origami Tree

Don't miss the Origami Holiday Tree, on display on the first floor of the Roosevelt Memorial Hall through January 9. Be sure to stop by the teaching table, where volunteers instruct visitors in the fine art of folding.

Cuba: Nature of an Island

Photographs and specimens from the American Museum's cooperative venture with the Museo Nacional de Historia Natural in Havana are on display in the Akeley Gallery on the second floor. Through January 3.



Self-portrait of Titian Ramsay Peale (above) and archival photographs are on display in the Library Gallery

Librarian's Choice

An exhibit of rarities from the Museum Library's extensive collections is on display in the Library Gallery. *Librarian's Choice: Treasures from 124 Years of Collecting* features items from the Rare Book, Photographic, Film, Art, and Archives collections. The gallery is located on the fourth floor.

The Barosaurus

The world's tallest free-standing dinosaur exhibit is on display on the second floor of the Roosevelt Memorial Hall. A five-story-high *Barosaurus* rears up on its hind legs to protect its young from an attacking *Allosaurus*.

The Museum houses the world's largest and most comprehensive collection of fossil vertebrates, and work on a new exhibition area is under way on the fourth floor. The halls of Earth History, Late and Early Mammals, and Late and Early Dinosaurs are closed for renovations. The first of the new halls will open early next year.

The Moveable Museum

The American Museum, in partnership with cultural organizations from all five boroughs, has launched a specially designed vehicle that transports the Museum's educational resources and exhibits to New York City schools, community centers, city parks, street fairs, and other neighborhood facilities. This classroom on wheels features artifacts and research specimens from the Museum's collections, videos,

models, and computers for on-site courses in the natural sciences, anthropology, and the arts.

The Moveable Museum's current exhibition is an adaptation of *Global Warming: Understanding the Forecast*, which was developed by the Museum and the Environmental Defense Fund. The exhibition explores the possible impact of a rise in the earth's temperature, depicts scenarios of climate changes

that have occurred in the past and those that could occur in the future, and details actions that individuals, communities, and nations can take to slow global warming.

The Moveable Museum is a joint initiative of the New York City Council, the Museum's Education Department, and the Chase Manhattan Bank. For further information call (212) 769-5304.

South Pacific Cruise

For nearly a century the American Museum has been active in exploring the far-flung islands of the South Pacific. In April 1994 Discovery Cruises will return to this area, following in the footsteps of such noted Museum anthropologists as Harry Shapiro and Margaret Mead, both of whose careers spanned most of this century.

This cruise will explore two

island groups, the Marquesas and the Tuamotus. Each is dramatically different; the Marquesas are volcanic, with high, jagged peaks and deep, fertile valleys; the Tuamotus are low-lying atolls — circular reefs encircling shimmering blue lagoons.

In addition to experiencing the splendid natural beauty of Polynesia, participants will be offered insights from a team

of Museum experts on many aspects of the complex traditional cultures of these islands. The itinerary includes stops at Rangiroa, Takarua, Nuku Hiva, Ua Pou, Hiva Oa, and Fatu Hiva, each of which features a unique glimpse of the South Pacific. For further information, call Discovery Tours at (800) 462-8687 or (212) 769-5700 in New York State.

Dino-Mite Dinner Deal!

Prime Rib Dinner
with potatoes and vegetables
\$10⁹⁵

Every Friday and Saturday, 5:00-7:30 pm

Naturemax Dinner Theater Package
Includes a complete dinner entree,
appetizer or dessert and coffee, per person **\$21⁰⁰**

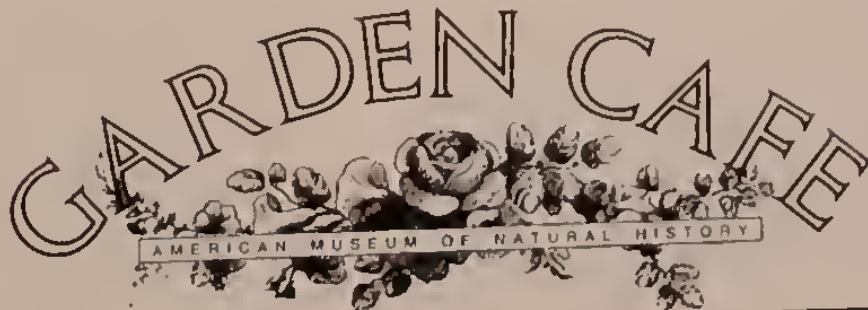
Hours

Lunch, Mon.-Fri: 11:30 - 3:30

Saturday and Sunday Brunch: 11:00 - 4:00

Dinner seating, Fri.-Sat: 5:00 - 7:30

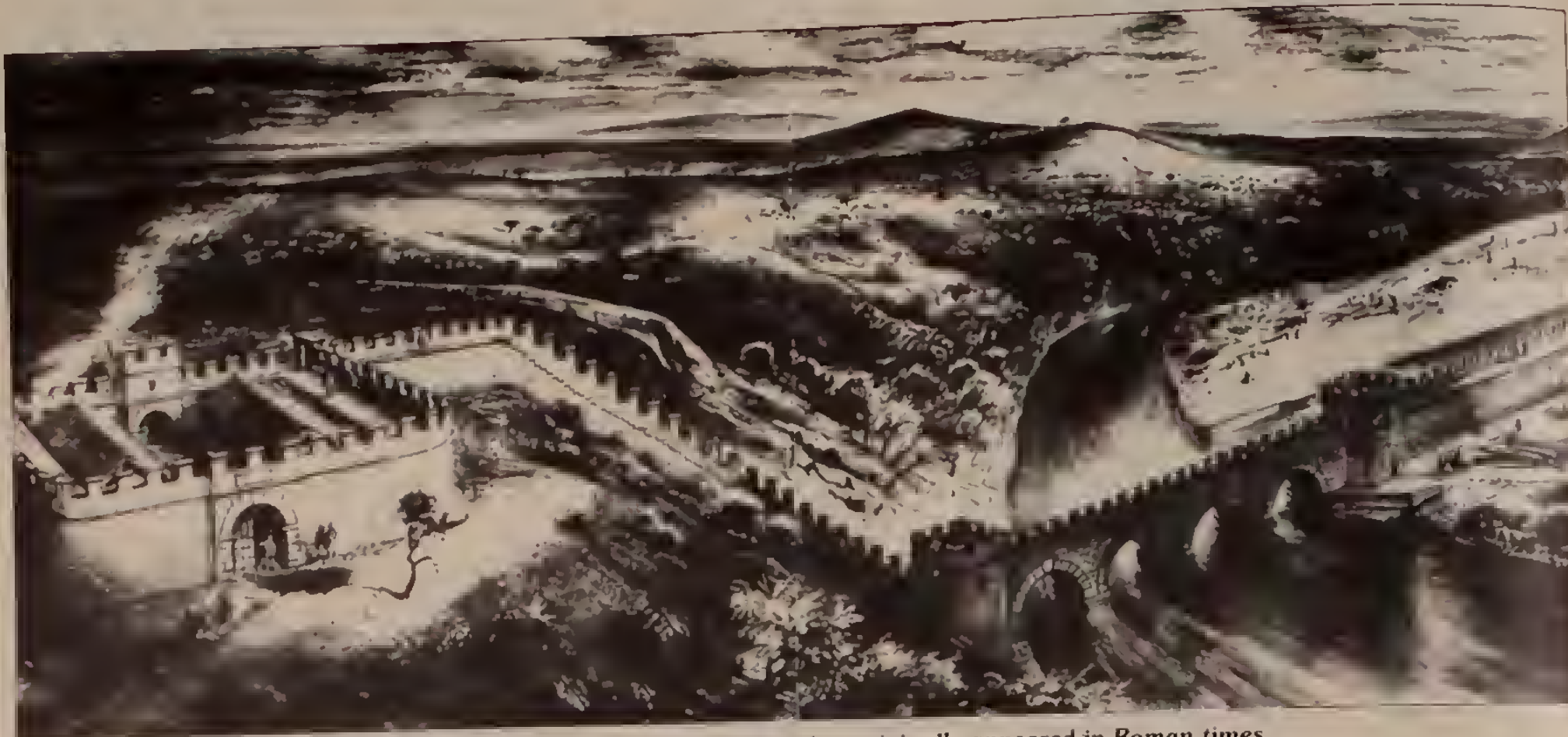
For Reservations call 212-874-3436



Walking the Wall

A Modern-Day Odyssey along Hadrian's Wall

by Paul F. Beelitz



Milecastle 49 and Willowford Bridge, as they originally appeared in Roman times

In the fall of 1991 Paul Beelitz, collections manager in the Department of Anthropology, traced the path of Hadrian's Wall in northern England. The following are his adventures — and misadventures — along the wall.

In AD 122 the Roman emperor Publius Aelius Hadrianus, delivered by trireme, made landfall on the island that was the northwesternmost extent of his empire. The Romans could not yet lay claim to all of what we now call England, however, for the northern tribes had proved persistent defenders of their homeland. For military reasons, and in keeping with the Roman desire to define all that they would call theirs, Hadrian ordered that a wall be built across the island from the mouth of the River Tyne on the North Sea in the east to the Solway Firth on the Irish Sea in the west, a distance of more than 70 miles. The wall's importance varied throughout the ensuing centuries, depending upon the military situation, until the Romans quit England in AD 383.

Hadrian's Wall, still extant in large sections, appeals to those who wish to combine a long-distance walk with an interest in archeology. After years of thinking about it I walked the wall from Newcastle-upon-Tyne in the east to Carlisle in the west. I later learned that it would have been entirely more rational to walk from west to east, but I wanted to be true to the Roman soldiers who landed in the east and walked west to their assignments along the wall.

I paid no tribute, however, to the Roman infantrymen who carried many pounds of raiment and equipment in the form of helmets, chest armor, swords, javelins weighted with three-pound lead balls, shields, and a pole laden with sleeping gear, utensils, food, and the occasional reminder of home on the sunny Mediterranean. My pack, the airline counter attendants informed me, weighed a mere six pounds.

A day was well spent in Newcastle-upon-Tyne's Museum of Antiquities, which is filled with Roman artifacts, a temple reconstruction, and stones from the wall carved with tributes and the names of cohorts, legions, and legionnaires. The museum's most interesting feature was a long-scale model of the entire wall as it was originally built and its surrounding topography. At every mile along the wall's length the Romans built stone milecastles, glorified gateways where tolls were collected and tariffs exacted. With barracks large enough for up to 50 men, milecastles covered an area about 60 by 80 feet and had staircases leading up to a parapet around the perimeter that gave access to a tower from which the frontier could be surveyed. The gates to the north were typically a pair of sturdy

wooden doors that opened outward, the better to dispatch patrols.

Milecastles were an integral part of the system, their northern face consisting of part of the curtain wall, which was up to 10 feet thick. The wall was probably over 15 feet high, including its parapet. Two turrets were built into the wall at the third-mile marks between the milecastles. These housed guards who could climb a ladder to the parapet, continuous through the three-component system of milecastles, turrets, and the wall itself. Disrupting the milecastle-turret-turret sequence, on an average of every seven miles, were forts. These were more extensive than milecastles, for they served as administrative centers and supply depots and were usually surrounded by settlements.

I compared the model with my "wall book." I'd laboriously cut an Ordnance Survey map into 5-inch sections, mounted them on 6" x 8" sheets of graph paper, and bound them. The right-hand side of each page had the OS map section with complete topographical detail and the left-hand side a more pedestrian road map section. Both sides had information gleaned from several sources about that particular section of the wall and listings of bed-and-breakfasts along the way. The book was designed to be read from back to front, or east to west, and each turn of a page meant an advance of 2.5 miles.

On Wednesday, after the first night in Newcastle, I had to travel three miles east on the north bank of the River Tyne. I took the train to the town of Wallsend, site of the Romans' fort SEGEDVNVM, whose foundation can still be seen. The region around Newcastle is industrialized, particularly at Wallsend, where the clamor of the Swan Hunter shipyards is a reminder that it's remarkable the foundation of SEGEDVNVM still exists, for the next extant bit of Hadrian's Wall is seven miles west. I walked four miles along the road where the wall used to be, past factories, auto supply stores, pubs, garages, and warehouses to downtown Newcastle, where Milecastle 4 and the PONS AELIVS, a wood bridge spanning the Tyne, used to be.

On Thursday I took a bus back to the point where my walk had ended. Hadrian's Wall used to be where the A6115 is now. After about an hour of walking west along a road bordered by apartment complexes, small businesses, semidetached houses, and schools, I came upon the remains of Turret 7B (the second turret west of Milecastle 7) in a residential area. Soon I was beyond the Newcastle area and looking for the B6528, the road that currently occupies the wall's course. This was the first of many occasions when highway entrance and egress ramps were crossed, a dangerous proposition for Americans, who tend to look the wrong way when negoti-

ating traffic in England. Still worse, the highway numbers on the signs weren't matching up to those in my book, and I had to trust my sense of direction. The area was mostly rural until I arrived in the small town of Wallbottle, where I stopped for the last drink I was to have for some time to come.

In Heddon-on-the-Wall, between Turret 11B and Milecastle 12, there is a lovely 200-yard section of the wall. South of the road and surrounded by verdant grass, the wall's gray stones are smooth from centuries of rain and wind. It's the first substantial section of the wall; the stones making up the north and south faces are dressed, and the area between them is filled with rubble. It's also the first place where the vallum — an earthwork that runs the entire length of Hadrian's Wall on the south — can be seen. In total it is 40 yards wide with a central depression 3 yards wide, flanked by continuous mounds. The vallum provided security for the southern side of the wall; it encouraged civilians, at least some of whom were not fond of the Romans, to approach the wall only at the causeways along the southern gates of the milecastles.

I was well along the road before coming upon a menacing Bridge Out sign. Not only would I have to retrace my steps for a mile or so, but also I'd have to find an alternate route. The overpass spanned the A69, a major highway, on which workers wielding heavy equipment were making major repairs. The A69 roared underneath, but the workers generously allowed me to cross an intact but tenuous section of the overpass.

My troubles soon began. At this point Hadrian's Wall exists not at all, for its course is entirely taken up by the B6318. A highway with one lane in each direction and no shoulder was hardly the place to take a safe walk. I should have been arrested for endangering my own life as well as those of motorists who sped at me from both directions in excess of 70 mph. With each passing truck I endured two shock waves of violently disturbed air: the first pushed off the vehicle's front and the second dragged from its rear. Both bursts were accompanied by gravel and road debris gone ballistic.

I walked along the right side of the highway so that I'd see oncoming vehicles in time to dive into the thick brush at roadside. After dozens of leaps into the brush I considered sticking out my thumb. I didn't, because my goal was to walk the length of the wall — even where it no longer existed — to Carlisle. According to my book it was only two miles to Harlow Hill, where Milecastle 16 used to be, and where surely one building in the small cluster that made up the town would be a pub.

My greatest fear in preparing for the trip had been rain, which was supposed to fall on more days

than not in October. Instead of rain, a wind came howling in from the west at up to 50 mph, as a weather broadcast that night cheerfully reported. Walking into the wind required extraordinary effort, especially when I had truck-dodging on my mind. If there had been even the remains of the vallum in this area, I could have walked along one of its mounds where the drainage was good. Glimpses of the other side of the brush revealed only muddy farmland that would have been even more difficult to negotiate.

Finally, I made Harrow Hill, but it offered no amenities. The book indicated that East Wallhouses, on the site of Milecastle 18, had an even smaller cluster of buildings. It was past noon, and if there were no sustenance there, I'd hitchhike to the first place that offered a repast. I took a break from the highway and walked across farmland to the north. Walking through the low dead crops was as much a hindrance as walking into the wind, I was hungry, and my mouth started to feel like parchment. Ahead were two small bodies of water fed by the Whittle and Welton burns, the Sparrow Letch, and the Whittledean Watercourse.

When I got there, I found that the water was far below and was probably a reservoir since men were building a wall around parts of it by encasing cobbles in chain-link fencing. I couldn't ask the workers' permission to cross the site because I couldn't talk above a low rasp and the wind would have drowned out anything I could have said. My left arm pointed in the desired direction and the men nodded their assent, albeit with some quizzical looks.

More farmland preceded East Wallhouses, which I traversed with great difficulty. In the distance I saw multicolored pennants, the kind displayed at car dealerships, vigorously flapping in the wind. I was certain I'd find at least something to drink before hitching a ride to food.

Happily, it was the Robin Hood Inn. They were closing for the afternoon when I rasped for a pint of bitter and inhaled it while the keeper drew another. The cook was called in from another room (probably from his post-lunch break) and asked to make up a fine beef pie.

Lessons learned today and confirmed by the keeper: 1) Don't walk the course of Hadrian's Wall from Newcastle-upon-Tyne to East Wallhouses. There's not much wall to see, and you'll spend all your time dodging lorries. 2) Every town on the map doesn't have a pub, so 3) carry a water bottle.

I had been too zealous in keeping down the weight of my pack. While I had another pint of bitter, the keeper filled an empty bottle with water. I left, making my way past the site of Milecastle 32, and turned south onto Dere Street to the Fox and Hounds Hotel, where I ate dinner and collapsed into bed.

On Friday morning I continued two miles south on Dere Street to CORSTOPITVM, a fort site in the town of Corbridge on the north bank of the River Tyne. Although it's not actually part of the wall, CORSTOPITVM was a worthwhile detour, for it served as an arsenal, a granary, and a supply depot for the frontier system. Special detachments of craftsmen lived there, and a town of about 35 acres grew around it. In the museum adjacent to the site is the Corbridge Lion, a carved stone fountainhead portraying a feline eating a stag it had just taken down, a popular Roman subject.

A well-preserved example of a Roman granary is part of the site. Granaries were typically about 100 feet long and 30 feet wide and built in pairs. Only the foundations can be seen; these illustrate the Roman technique of raising the floor several feet above ground, leaving chambers for air circulation, drainage, and rodent control.

To get back to the wall I would have to walk north up Dere Street from CORSTOPITVM's 500-foot elevation to the wall's 3,300-foot elevation over a distance of 2.5 miles. The wall's course continued under the wretched B6318, of which I'd had enough. I decided to head west along the Tyne, roughly following what used to be the route of the Stanegate, a strategic road built before the wall and extending as far west as Carlisle. I walked 8.5 miles along local roads to Grindon Hill, ate a sandwich from a newsstand, and then headed north for two miles on a little-used road through undulating pastureland. The dull roar in the distance signaled the B6318, but I knew that the highway would veer off to the southwest and I could look forward to a few days of the wall surrounded only by countryside.

By walking the Stanegate, I undershot Milecastle 23, the easternmost remains of a milecastle, and the fort CILVRNVM, which overlooks the River North Tyne. Up the hill on the other side of the B6318 was Sewing Shields Farm, a bed-and-break-

fast and working farm at an altitude of 900 feet. Here were the first picturesque views, since Sewing Shields overlooks the southern land that descends to the River Tyne and north toward Scotland, 25 miles away. I arrived at the farmhouse around 4 o'clock, and after checking in, went out again to walk east along the wall's course to see some of what I had missed.

The lady of Sewing Shields Farm made tea when I got back and asked, "Where are you eating tonight? There isn't a place to eat within miles of here." Hadn't thought about that; thus far I'd slept in places near restaurants. "Never mind," she said, "you'll eat here tonight." She and her sons ate their ham in the kitchen, as was their custom, and I was served the same in the sitting room. Her husband, whose Scot family went back some generations at Sewing Shields, came home at around 7:30 and ate his dinner in my company.

"You know, Sewing Shields' buildings were made with the stone from Hadrian's Wall," he said. "But don't be surprised, it's not all that unusual." I wasn't surprised, for throughout the world practical town and country folk have quarried ancient structures. I showed him my copy of *The First Man to Walk Hadrian's Wall*, by William Hutton, a reprint of an 1802 book sold at many places between Newcastle and Carlisle.

During the summer of 1801, the 78-year-old author perambulated over 600 miles through the north of England, visiting Roman sites with nothing but his umbrella, kitbag, and knowledge of his daughter's disapprobation. The antiquarian's main objective was his beloved "shattered Wall," which he walked from west to east and back. "I envied the people in the neighbourhood of the Wall," Hutton wrote, "though I knew they valued it no more than the soil on which it stood. I wished to converse with an intelligent resident, but never saw one."

The modern cover of the book shows him chastising two locals, one atop the wall with a dressed stone in his hands, ready to drop it into a wheelbarrow held by the other. Hutton lamented that if a farmer were to say, "The property is mine, and I have a right to direct it as I please," he could only reply, "It is an argument I can regret, but not refute." Even though parts of the wall still run through private property, it's now protected by the Department of the Environment.

The next day I passed through the wet woods surrounding Sewing Shields Farm and abruptly met the type of landscape that makes the north country so alluring. The rain barely obscured the view north from Sewing Shields Crags to the Broomlee and Greenlee loughs and the Cheviot Hills. The view west offered an exciting change; the gentler topography of previous days was replaced by the chasms and high crags of the northern Pennines. The Romans crowned these natural fortifications with Hadrian's Wall and could survey vast expanses of moor.

I quickly made VEROVICIVM, a well-preserved fort and civil settlement east of Milecastle 37. It was too early to be officially open to the public, but the gates were designed to be impregnable to sheep, not humans. Throughout the fort's remains, English Heritage labels identified and showed reconstructions of its gateways, hospital, commanding officer's building, latrines, barracks, and granaries. The civilian settlement to the south included the Murder House, where the remains of a man and woman from the fourth century were found. Both appeared to have been buried surreptitiously, since the business end of a sword was found in the man's ribs. The museum farther down the terraced slope wasn't open yet, so I continued west along the wall, unbroken for a mile west and including Milecastle 37.

From far below Milecastle 37 at the bottom of Cuddy's Crag came a cacophony of barking dogs, horns, snorting horses, and shouts: a fox hunt was in progress. It was unlike the edited hunts depicted on film, for there was no concerted line of charge in one direction. Instead, the hounds, horses, and scarlet tunics negotiated assorted obstacles in many directions. I counted 48 dogs before being interrupted by a couple on the path who told me not to worry (I hadn't been) because "they never catch the fox."

I spent the rest of the afternoon looking for lodgings and set out on the following day, Sunday. When I continued straight where I should have turned right, I went horribly wrong. Instead of walking along Haltwhistle Burn, as I'd intended, I ended up alongside Slaty Sike. Sike isn't in my dictionary, but the Slaty variety was a rivulet running through pasture, farmland, and woods. The land rose steeply on either side and was perpetually muddy from moisture and the daily effluence of local cattle.

There was a faint path in spots, but to avoid ankle-deep immersion in the mud I mostly stepped from one hummock or rock to another, with varying degrees of success. After climbing a few fences and passing through fragrantly coniferous woods, I came to a road that would lead to the B6318.

It had been quite a workout to reach the road, but I would need only to walk east along the highway and then north to Great Chesters, a distance of a mile and a half and a loss of half an hour. I reached for the wall book in my side pocket to confirm the route, but the book was gone and I felt sick.

When was the last time I looked at it? It had been a while; once I realized my route was Slaty Sike and not Haltwhistle Burn, the direction I needed to head was pretty clear. Where had I climbed fences? There were plenty of variables, for I had often climbed the same fence from one side to the other where thick woods made passage impossible. For a moment I thought of leaving the book behind. I had an uncut Ordnance Survey map of the wall in my pack, but it wasn't filled with jottings, information on accommodations and transportation, and the wall's history. Additionally, its tracing of the wall wasn't color-coded to indicate which sections were extant and which extinct. I had to retrace my steps along the sike exactly.

It wasn't long before I saw the book in the wet grass alongside a fence, laying face up in dangerous proximity to a mass of cattle dip. It was open to the pages with the map of Slaty Sike and was soaked around the edges, so I held it open while walking east along the B6318, and it was dry by the time I turned left off the highway and up the hill toward Great Chesters, also known as AESICA.

A farmer on an all-terrain motorized tricycle darted to and fro across the way to AESICA, chasing his cattle to the pastures du jour. AESICA was indicated on the map as extant but was in woeful condition. Fortunately, the site is protected by the Department of the Environment, so it's unlikely to deteriorate much further. Turret 45A and a good section of the wall are well preserved atop Walltown Crags, and I began a steep descent toward the area where the B6318 crosses the line of the wall and begins to run parallel to the north. The wall no longer exists in the countryside surrounding Greenhead, but a well-marked footpath took me over the convergence of the Toddle and Tipalt burns and through a picturesque golf course made more challenging by the intermittent existence of the vallum over a half-mile stretch.

Milecastle 48 in Gilsland was the next-to-last milecastle that still exists and the last and most interesting one that I saw. The steps once leading to the rampart still exist, and it was by projecting the flight's course that archeologists were able to determine the wall's 15-foot height. West of here I also saw my last two turrets, 48A and B, before coming to the Willowford Bridge, where Roman engineers built a bridge to span the River Irthing, which has now turned north across the wall's path.

The well-maintained path to the bridge crosses private property, and a box outside a stone house required a 20-pence deposit. The lady of the house took time out from serving Sunday dinner to her family to answer my questions about the river. If I couldn't ford the river, I'd have to walk east over the way I'd just come and then north to Gilsland proper, where a modern bridge would take me across the Irthing. I'd lost enough time that morning on Slaty Sike and didn't want to waste any more.

"Will it be possible to ford the river? I don't want to retrace my steps to get to Gilsland, but I also want to see the fort at Birdoswald."

"The river's not running too high, so I expect you might be able to cross it somewhere, but you'll get wet." She said this both to me and to family members, who nodded their affirmation.

The Irthing's course moved west over the centuries. The Willowford Bridge's eastern pier and abutment still stand in the middle of pasture, but their counterparts disappeared as the river cut its way deeper into the western bank. I walked south along the east bank looking for a place to cross. The river wasn't very wide, and a Department of the Environment guidebook said that "the river can generally be forded and the bank climbed, by the more energetic." I covered a quarter-mile of the east bank but there were no prospects. During my youth, my friends and I would spend days dumping rocks into the Rahway River until there was a thin dam just above the surface of the water that we could walk across. The children living around this section of the Irthing had no such inclination, however, and I was not to find a section sufficiently shallow and slow to afford a safe crossing.

continued on next page

Courses for Stargazers



ASTRONOMY: BASIC COURSES

Introduction to Astronomy

Eight Thursdays, beginning Jan. 13; 6:30-8:40 p.m.
\$85.50 for Members
\$95 for non-Members

A first course in astronomy, designed to introduce the many interesting aspects of the universe to those without a math or physics background. Topics include earth as a planet, the moon, the solar system, the stars, the Milky Way, galaxies, quasars, and black holes. Common observations such as planet motions and the rising and setting of the sun and moon are explained. No previous knowledge of astronomy is assumed.

Adventures in Astronomy

Five Saturdays, beginning Jan. 15; 9:40-11:40 a.m.
\$67.50 for Members
\$75 for non-Members

Confused about the difference between a star and a planet? Can't tell astronomy from astrology? Don't know Aquarius from Sagittarius or a black hole from a brown dwarf? Join us for a new Saturday course for the whole family (ages 10 and up). In the Sky Theater and in labs with astronomical equipment we will explore the birth and death of stars, the origin of the universe, the search for extraterrestrial life, and the current night sky.

Stars, Constellations, and Legends

Five Tuesdays, beginning Jan. 11; 6:30-8:10 p.m.
\$58.50 for Members
\$65 for non-Members

The lore of the sky is introduced with the Sky Theater's Zeiss projector, which will identify the prominent stars, constellations, and other sky objects of both Northern and Southern Hemispheres. The myths and legends of many cultures relating to the sky, as well as galaxies, star clusters, and nebulae found among the constellations, are illustrated. No prerequisites.

Celestial Highlights

Four selected Mondays: Jan. 3, Feb. 14, Mar. 21, April 18; 6:30-7:40 p.m.
\$36 for Members
\$40 for non-Members

This course will focus on the interesting and exciting events in the skies of the coming month. The night sky will be accurately simulated by the Zeiss projector in the Sky Theater, and students will learn how to find prominent constellations of the season and where and when to see gatherings of the moon and planets. The Planetarium's extensive collection of special effects will illustrate upcoming celestial events, including meteor showers and eclipses. Students will also learn about current space missions and how to find nebulae, star

clusters, and galaxies that are visible through binoculars or small telescopes.

Life Beyond the Earth: The Search for Life in the Cosmos

Eight Mondays, beginning Jan. 10; 6:30-8:40 p.m.
\$85.50 for Members
\$95 for non-Members

This course presents the reasons that many scientists believe there is intelligent life elsewhere in the universe. Topics include stellar evolution, theories of planet formation and development, origin of life, intelligence, problems of communications, and current investigations.

ASTRONOMY: INTERMEDIATE COURSE

Cosmology: The Big Picture

Four Thursdays, beginning Jan. 13; 6:30-8:10 p.m.
\$67.50 for Members
\$75 for non-Members

From the curvature of space-time and the creation of the elements to the fate of the stars and galaxies, cosmology is the study of the nature and evolution of the universe taken as a whole — the unity of the diverse manifestations of physical reality. Joseph Patterson of Columbia University will cover such topics as the cosmological assumptions, the nature of space and time, the Big Bang, the cosmic background radiation, the cold dark matter, and the great wall of galaxies.

The Invisible Universe

Five Wednesdays, beginning January 12; 6:30-8:10 p.m.
\$76.50 for Members
\$85 for non-Members

Beyond what the eye and modern optical telescopes can see lies a vast invisible universe — the universe of radio waves, infrared, ultraviolet, X-rays, and more. Using giant dish-shaped antennas continents apart and earth-orbiting satellites, astronomers are painting bizarre and fascinating portraits of planets, stars, and galaxies. In this course we'll use the latest images available to explore the invisible universe and see how such views complement and enrich our vision of the cosmos.

SCI FI

Science Fiction and Contemporary Society

Four Tuesdays, beginning Jan. 11; 6:30-8:40 p.m.
\$67.50 for Members
\$75 for non-Members

How do science fiction's imaginative visions reflect our own world? What methods do authors of fantastic texts use to mirror real-world contexts? This course will address these questions by focusing on science fiction's familiar classic writers (Asimov and Clarke), the revolutionary creators of the New Wave (Delaney and LeGuin), and exciting new voices (Butler and Tepper). Students will explore what science fiction has to say about social fact. Instructor Marleen Barr is a pioneer in the study of women and science fiction. A reading list will be distributed at the first meeting.

NAVIGATION: BASIC COURSE

Navigation in Coastal Waters

Eight Tuesdays, beginning Jan. 11; 6:30-9:00 p.m.
\$99 for Members
\$110 for non-Members

An introduction to piloting and dead reckoning for pres-

ent and prospective owners of small boats. The course provides practical chartwork and includes such topics as the compass, bearings, fixes, buoys and lighthouses, the running fix, current vectors and tides, and rules of the nautical road. Boating safety is emphasized. No prerequisites. Students are required to purchase an equipment kit.

NAVIGATION: INTERMEDIATE COURSE

Introduction to Celestial Navigation

Ten Mondays, beginning Jan. 10; 6:30-8:40 p.m.
\$99 for Members
\$110 for non-Members

This intermediate course is for those who have completed *Navigation in Coastal Waters* or who have equivalent piloting experience. The course covers the theory and practice of celestial navigation, the sextant and its use, and the complete solution for a line of position. Problem solving and chartwork are emphasized. Students are required to purchase a copy of *Sight-Reduction Tables for Marine Navigation, Volume 3* (Pub. No. 229).

Courses for Stargazers

I would like to register for the following Planetarium course(s):

Name of course: _____
Price: _____ (Please note that discount prices apply only to Participating and Higher Members.)

Class beginning: _____

Name: _____

Address: _____

City: _____ State: _____ Zip: _____

Daytime telephone: _____

Membership category: _____

Please mail this coupon with your check payable to the American Museum-Hayden Planetarium to: Courses for Stargazers, Hayden Planetarium, Central Park West at 81st Street, New York, NY 10024-5192. Registration by mail is strongly recommended and is accepted until seven days preceding the first class. For additional information, call (212) 769-5900, Monday-Friday, 9:30 a.m.-4:30 p.m. **No credit cards accepted. Do not include ticket requests or checks for American Museum programs.**

continued from previous page

The river turned west. To the south was a steep 200-foot rise through the Willowford Plantation. I would have to negotiate this and forget about seeing Milecastle 49 and Birdoswald (CAMBOGLANNA), the westernmost extant milecastle and fort, respectively. It would have been far better to head back east after examining the bridge and taking the modern bridge for passage to CAMBOGLANNA.

I ascended the forbidding and heavily wooded south bank 10 feet at a time in bursts of energy. Periodically, I grabbed at a tree long enough to gasp heavily and quickly for air. Rotten branches or trunks often broke away, sending me flailing at ground too slippery to give any purchase. Upon gaining the top of the plantation I discovered a devilish barbed-wire fence separating dark woods from

inviting open pasture. I found a sturdy tree, climbed it, jumped to the ground, and rolled to a stop. Gray clouds skirted rapidly across an even grayer sky and cows chewed their cud indifferently while I laid there for half an hour.

It was past 3 o'clock and I hadn't eaten since breakfast, so I left my bed and headed southwest, overlooking the Irthing far below. Across the river to the north I could see the high ground where Milecastle 49 and CAMBOGLANNA were perched. Along my side of the river I was treated to a dead sheep, well decomposed, and stretches of abominable mud before making Mains, where a footpath led me to the road to Low Row.

The wall was a mile north but all that was left were some turrets. In the lowlands west of the River Irthing the Romans at first built the wall entirely of

turf cut into 18" x 12" x 6" blocks. The reasons given for this vary: it may have been because the lime used for mortar was geologically unavailable west of the Irthing, or perhaps the Romans were in a hurry to finish the wall. In the ensuing years, the Romans supposedly completed this section of the wall with stone, presumably having transported lime to the building site. Yet none of the wall or even a lone turret stands west of here, so the evidence for the later construction of the wall in stone is sketchy.

On Monday morning I checked out of my hotel early and continued on the A69's shoulder for eight miles to Carlisle, whence I took the train to London. In all, I'd walked the distance from Milecastle 1 to Milecastle 65, with many a lengthy diversion south of the wall. West of Carlisle to Bowness, there are no remains at all.

Museum Notes

Hours
Exhibition Halls
Mon.-Thurs. & Sun.10:00 a.m.-5:45 p.m.
Fri. & Sat.10:00 a.m.-8:45 p.m.
Note: The Museum closes at 5:45 p.m. on Dec. 24 and 31
The Museum Shop
Mon.-Thurs. & Sun.10:00 a.m.-5:45 p.m.
Fri. & Sat.10:00 a.m.-7:45 p.m.
The Junior Shop
Mon.-Fri.10:00 a.m.-4:45 p.m.
Sat. & Sun.10:00 a.m.-5:45 p.m.
The Museum Library
Tues.-Fri.11:00 a.m.-4:00 p.m.
The Discovery Room
Passes are distributed at the first-floor information desk beginning at 11:45 a.m. Ages 5-10. Children must be accompanied by an adult.
Closed on holidays and weekdays.
Sat. & Sun.Noon-4:30 p.m.
The Natural Science Center
For children of all ages and their families.
Closed on Mondays and holidays.
Tues.-Fri.10:30 a.m.-12:30 p.m. and 2:00-4:30 p.m.
Sat. & Sun.1:00-4:30 p.m.

Museum Dining
Diner Saurus Fast Service Eatery
Daily11:00 a.m.-4:45 p.m.
Garden Cafe
Reservations: (212) 769-5865
Lunch: Mon.-Fri.11:30 a.m.-3:30 p.m.
Dinner: Fri. & Sat.5:30-7:30 p.m.
Brunch: Sat. & Sun.11:00 a.m.-4:00 p.m.
Whale's Lair
Fri.3:00-8:00 p.m.
Sat.Noon-8:00 p.m.
Sun. & most holidaysNoon-5:00 p.m.
Snack Carts (at 77th Street & on the first floor of the Roosevelt Memorial Hall)
Sat. & Sun.11:00 a.m.-4:00 p.m.

Naturemax
The Naturemax Theater presents Antarctica, a thrilling exploration of the highest, driest, coldest, and most mysterious continent on earth.
Showtimes for Antarctica are 10:30 and 11:30 a.m., 1:30 and 3:30 p.m. daily. Tropical Rain Forest, which portrays the 400-million-year evolution of these vanishing resources, is shown at 12:30, 2:30, and 4:30 p.m.
On Friday and Saturday at 6:00 and 7:30 p.m., Antarctica is shown on a double bill with Tropical

Rain Forest. Schedules and prices are subject to change without notice. Call (212) 769-5650 for further information.
Admission (Participating and Higher Members):
Adults: \$4 single feature; \$5.50 double feature
Children: \$2 single feature; \$3 double feature

Birthday Parties
Theme parties for young Members 5-10 years old are two hours long and held at 3:30 p.m. on Wednesdays, at 4:00 p.m. on Fridays, and at 11:00 a.m. or 2:30 p.m. on weekends. The group should be no fewer than 10 and no more than 20. The fee is \$275 plus \$15 per child. (The cost includes all materials, juice, ice cream, and favor bags. The cake is not included.) Call (212) 769-5606 for further information.

Parking
The Museum's parking lot is located on 81st Street between Central Park West and Columbus Avenue. Space is limited and fees are \$12 for cars and \$11 for buses. The lot is open from 9:30 a.m. to 9:30 p.m. on Sunday through Thursday and from 9:30 a.m. to midnight on Friday and Saturday.
Call the Membership Office at (212) 769-5606 for information about alternative parking.

Happenings at the Hayden



Holiday Concert

The Planetarium's Tenth Annual Holiday Concert Under the Stars will feature the New York Philomusica. On Wednesday, December 15, and Thursday, December 16, at 7:30 p.m., the performers will play a special selection of music from the baroque to the present and beyond. The Planetarium's magnificent starry sky, dazzling laser lights, and special effects combine to make this a unique holiday experience.
Participating and Higher Members are entitled to four tickets at \$15 each. Additional tickets may be purchased at the non-Members' price of \$18 each. For further information call (212) 769-5900.

Sky Show Star of Christmas Through Jan. 2

At this holiday program, viewers gaze out on a clear winter's night and travel back nearly 2,000 years to explore the skies of the first Christmas. Just what led the Wise Men to Bethlehem? Was it a special star that no one else had seen before? A comet? Or something else? Join us for this special holiday tradition.
Showtimes:
Mon.-Fri.1:30 and 3:30 p.m.
Sat. and Sun.1:00, 3:00, and 5:00 p.m.

Orion Rendezvous...A Star Trek Voyage of Discovery

Climb aboard the starship Antares for a cosmic journey. Actor LeVar Burton joins the crew as Lieutenant Commander Geordi La Forge, the character

he plays on *Star Trek: The Next Generation*. Enter the twenty-fourth century and journey to a place where six suns blaze in the sky, and then voyage to a sun 100 million times bigger than our own. Discover where stars are born and explore the galactic graveyard of a star that died in one of the most powerful explosions in the universe. Space enthusiasts and *Star Trek* fans alike will know that they have gone where no planetarium audience has gone before.
Showtimes:
Mon.-Fri.2:30 p.m.
Sat.11:00 a.m. (except for Dec. 4 and Jan. 8), 2:00 and 4:00 p.m.
Sun.2:00 and 4:00 p.m.
The Planetarium is closed on Christmas Day, Dec. 25. From Dec. 27 through 30 *Star of Christmas* will be shown at noon, 2:00, and 4:00 p.m. Performance times for *Orion Rendezvous* will be 1:00 and 3:00 p.m.
Admission to the Sky Show for Participating and Higher Members is \$6 for adults and \$3.50 for children ages 2 to 12. Prices and schedules subject to change without notice. For non-Members' prices and additional information, call (212) 769-5100.

Exhibition

**Star Trek® Exhibition:
A Retrospective of the Sixties**
Alien costumes, Starfleet uniforms, Enterprise models, and assorted props and photos from Paramount's original 1960s television series are on display in a special exhibition curated by the National Air and Space Museum. Explore the historical, political, social, and cultural themes incorporated into the weekly *Star Trek*® series. For information call (212) 769-5100.

Lecture

Frontiers in Astronomy and Astrophysics
On Monday, January 10, at 7:30 p.m. Catherine Gammay of the Joint Institute for Laboratory Astrophysics at the University of Colorado will present an illustrated talk, "Supernovas, Star Formation, and Us." Gammay will take a look at the incredible life cycles of stars and the curious links between the spectacle of stellar death and the creation of life in the universe.
This lecture is part of the *Frontiers in Astronomy and Astrophysics* series. Tickets are \$6 for Participating and Higher Members and \$8 for non-Members. Use the coupon at right to order tickets, and for information about ticket availability and upcoming lectures call (212) 769-5900.

Children's Shows

Wonderful Sky is a special Sky Show for preschoolers. Children sing along with images of their favorite Sesame Street Muppets as they learn about rainbows, the phases of the moon, sunsets, and stars. Sat., Dec. 4, at 10:30 and 11:45 a.m.,

and Sat., Jan. 8, at 10:30 a.m. Admission for Participating and Higher Members is \$6 for adults and \$3.50 for children. Members can purchase up to four tickets at the Members' price.
Shows usually sell out in advance; reservations, by mail only, are necessary. Make your check payable to the Hayden Planetarium (Attn: *Wonderful Sky*, Central Park West at 81st Street, New York, NY 10024), indicate membership category and a first and second choice of showtimes, and include a self-addressed, stamped envelope and your daytime phone number. For additional information, call (212) 769-5900.
Robots in Space features Lucasfilm's R2D2 and C-3PO™ and has been created especially for children ages 7 to 12. Together with a live host, these famous space robots take children on a tour of the universe. See how satellites and probes — the real space robots — help us learn about worlds near and far. Journey from the earth to other planets and distant black holes. Sat., Jan. 8, and Sat., March 5, at 11:45 a.m. Admission for Participating and Higher Members is \$4 for adults and \$2 for children. For additional information, call (212) 769-5900.

Laser Shows

Journey into another dimension where laser visuals and rock music combine to create a dazzling 3-D experience of sight and sound. Shows are presented on Fridays and Saturdays at 7:00, 8:30, and 10:00 p.m. For prices and show schedule, telephone (212) 769-5100. Please note that there will be no laser shows on Dec. 24, 25, 31, and Jan. 1.

Lecture, "Supernovas, Star Formation, and Us."
Monday, January 10, 7:30 p.m.

Number of Members' tickets at \$6
(no more than 4, please): _____
Number of non-Members' tickets at \$8: _____
Total amount enclosed: _____

Name: _____

Address: _____

City: _____ State: _____ Zip: _____

Daytime telephone: _____

Membership category: _____

Please make check payable to the Hayden Planetarium and mail with a **self-addressed, stamped envelope** to: Lecture, Hayden Planetarium, Central Park West at 81st Street, New York, NY 10024-5192.

Please note that ticket orders are subject to availability and cannot be processed without telephone number and stamped, self-addressed envelope. **Do not include ticket requests or checks for American Museum programs.**

Sun

Mon

Tue

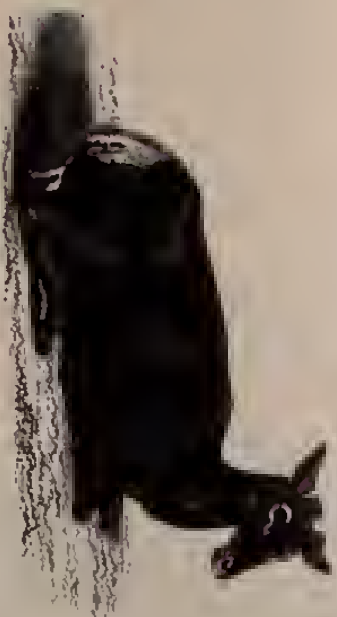
Wed

Thu

Fri

Sat

December 1993 American Museum of Natural History



1 7:30 p.m. Indigenous and "Mestizo" Music and Dance of the Andes. Main Auditorium. Free. Page 6.
7:45 p.m. Amateur Astronomers Association. Linder Theater. Free.

2 4:00 and 6:00 p.m. Members' Tours of the Con Edison Plant. \$16, and open only to Participating and Higher Members. Tickets required. Page 2.
SOLD OUT

3

4 9:00 a.m.-6:30 p.m. A Day with the Dinosaurs. Members' day trip to the Philadelphia Academy of Natural Sciences. Tickets required. Page 2.
11:00 a.m. NY Map Society. Room 319. Free.
1:00-4:30 p.m. Music of the Indigenous Caribbean: The Columbian Change: Preserving Native Traditions. Leonhardt People Center. Free. Page 6.

5 1:00-4:30 p.m. Music of the Indigenous Caribbean: The Columbian Change: Preserving Native Traditions. Leonhardt People Center. Free. Page 6.

6 7:30 p.m. The Winter Revels. Members' holiday program. Main Auditorium. \$12 all children, \$17 for Members, \$22 for non-Members. Page 1.

The Garden Cafe is open from 5:00 to 7:00 p.m.

7 7:00 p.m. Latin American Film Program: Five Centuries Later. Kaufmann Theater. Free. Page 6.
7:30 p.m. The Winter Revels. Members' holiday program. Main Auditorium. \$12 all children, \$17 for Members, \$22 for non-Members. Page 1.

The Garden Cafe is open from 5:00 to 7:00 p.m.

Hannukah begins at sundown.

9 7:30 p.m. The Winter Revels. Members' holiday program. Sign language performance. Main Auditorium. \$12 for all children, \$17 for Members, \$22 for non-Members. Page 1.

10 7:00 p.m. Endangered Species: Restoring the Black Howler Monkey. Members' evening program. Kaufmann Theater. Free for Members, \$8 for non-Members. Page 2.

11 10:30 and 11:30 a.m., 12:00 and 3:00 p.m. Origami Holiday Workshops. Tickets required. Page 2.
1:00-4:30 p.m. Indigenous Dances of Mexico: Through Native Eyes: Indigenous Folklore of Latin America. Leonhardt People Center. Free. Page 6.
6:30 p.m. The World Tour. Page 6.

12 1:00-4:30 p.m. Indigenous Dances of Mexico: Through Native Eyes: Indigenous Folklore of Latin America. Leonhardt People Center. Free. Page 6.
1:00 p.m. The World Tour. Page 6.
2:00 p.m. NY Shell Club. Room 319. Free.



14 7:30 p.m. Linnean Society of NY. Linder Theater. Free.

15 7:00 p.m. Valley Forge: 100 Years of Preservation. Members' evening program. Kaufmann Theater. \$7 for Members, \$10 for non-Members. Page 2.
7:30 p.m. Tenth Annual Holiday Concert Under the Stars. Sky Theater. \$15 for Members, \$18 for non-Members. Page 11.

16 5:30-7:30 p.m. Deciphering the Human Skeleton. Members' workshop. Tickets required. Page 2.
7:30 p.m. Tenth Annual Holiday Concert Under the Stars. Sky Theater. \$15 for Members, \$18 for non-Members. Page 11.

17

18 10:30 a.m. and 1:30 p.m. Make a Holiday Gingerbread House. Members' adult-child workshop. Tickets required. Page 2. **SOLD OUT**
1:45 p.m. Natural History of the Holidays. Sign language tour. Page 6.

19 10:30 a.m. and 1:30 p.m. Make a Holiday Gingerbread House. Members' adult-child workshop. Tickets required. Page 2. **SOLD OUT**
2:00 p.m. NY Paleontological Society. Room 319. Free.

20

21 7:00 p.m. NY Entomological Society. Room 319. Free.

22

The Museum receives substantial support from a number of major sources. We are particularly grateful to the City of New York, which owns the Museum buildings and provides funds for their operation and maintenance, and to the New York State Council on the Arts, National Science Foundation, National Endowment for the Arts, National Endowment for the Humanities, Institute for Museum Services, 300 Arts, National Endowment for the Humanities, 520,000 members, and numerous individual corporations, 100 private foundations, 520,000 members, and numerous individual contributors.

26

Entrances
During Museum hours visitors can enter the building through the 77th Street entrance, the parking lot entrance (81st Street), or the Roosevelt Memorial Hall entrance (79th Street and Central Park West). Visitors attending programs after hours can enter the building through the driveway entrance at 79th Street and Central Park West.

28

29

A Natural History of the Hudson Valley
Friends of Fishes and the Hudson River Foundation will sponsor *Our Own Backyard*, a five-part lecture series focusing on Hudson River ecology, geology, and hydrology. The series will take place from 6:30 to 8:30 p.m. on five consecutive Wednesdays, starting January 19.
For further information call (212) 289-3605 or fax (212) 360-6625.

Moving?

Please use this coupon to let us know your change of address. Be sure to enclose a copy of your old address (you can use the mailing label from the cover of your copy of *Rotunda*), and allow six to eight weeks for our fulfillment center to process your notification.

Rotunda address change

Name: _____

Address: _____

City: _____

State: _____

Zip: _____

Daytime telephone: _____

Membership category: _____

Mail to: *Natural History/Rotunda*, Membership Services, PO Box 5000, Hatan, IA 51537.



25 Christmas. The Museum is closed.