The Gardner D. Stout
Hall of Asian Peoples

A history of the Museum's Asian collections is, in essence, a history of the Museum itself. It is a history of the men and women of the Museum and their dreams, ambitions, ideas, and theories. It is a history that began with Franz Boas, the father of American anthropology, and has continued through the efforts of hundreds of ethnographers, curators, and explorers to the present day.

When these people looked to the East, they saw many things. Some saw a chance to study and record ways of life that would soon disappear forever; some hoped to find in Asia the birthplace of the human race; some saw Asia as the key to understanding human migrations to the New World; and some saw Asia as a continent of high adventure, the last great frontier.

For 111 years, these people traversed the Asian continent, assembling what is perhaps the finest ethnographic collection of Asian material in the West. And the very best of that collection, some two percent, is now on display in the new Gardner D. Stout Hall of Asian Peoples.

In the twentieth century we have seen how fragile human culture can be. Western technology, political theory, and economic development has transformed, and in some cases destroyed, the cultures of Asia. The Hall of Asian Peoples is more than an exhibition; it is a record of the social organizations, beliefs, religions, and ways of life that were traditional Asia.

The center section of this issue is devoted to the early expeditions that gathered the nucleus of the Museum's Asian collections. We hope it will enrich your understanding and enjoyment of the new Gardner D. Stout Hall of Asian Peoples.

(Above) A Mongol listens to a concert broadcast from Vladivostok, Russia, on the Third Asiatic Expedition's radio set. Bringing back the Museum's Asian collections is the subject of a special center section in Rotaunda this month.

The Great Wall and Beyond

Early Museum explorers crossed the Gobi desert, pushed into unknown regions of Siberia, and traveled with the nomads of Tibet. Read in their own words how they assembled the magnificent collections now on display in the Gardner D. Stout Hall of Asian Peoples. Photographs and articles, page 6, 7, 8, Special programs and events on Asia, page 5.

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Ghost Stories from Around the World

On Sunday, October 26, the lights in the Education Hall will dim, candlelight will flicker across the stage, and Members will enter a world of ghosts, goblins, witches, and other supernatural spirits in celebration of Halloween, the Membership Office has asked Laura Sims, one of New York's most popular storytellers, and Jackie Terracciano, who hail from North Carolina, to tell ghost stories from around the world. You will listen to ghost tales from India, Japan, England, and Native American tales from the Northwest Coast. Ms. Terracciano will weave folktales from North Carolina that have been passed down in her family for generations. You will meet an Indian dream merchant, Uncle Remus, Blackbeard the pirate, and the two white horses of Ashville. There will be three storytelling sessions at 11:00 a.m., 1:30 p.m., and 3:30 p.m. The morning session, with slightly friendlier ghosts, is geared especially for children seven years old and under. The afternoon sessions are for all ages. The program is free to Members, $3.00 for non-members.

Please register for the Ghost Storytelling Program marked below. (Indicate a first and second choice of times)

11:00 a.m. (geared for children under 7)
1:30 p.m. (all ages)
3:30 p.m. (all ages)

Number of people: (Participating, Donor, and Elected Members are entitled to up to six free tickets; Associate Members are entitled to one. All other tickets $3.00).

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

Please mail with a self-addressed, stamped envelope to Members' Story Program, American Museum of Natural History, Central Park West at 79th Street, New York, NY 10024

Members' Memo

The formation of the Asian Collection, displayed in the new Hall of Asian Peoples, is the subject of a special center section in Rotunda this month. We hope to answer questions people frequently ask — but don't find answers to in labels — such as, "Where did it come from?" and, "How did you get it?"
The collection, possibly the finest Asian ethnographic collection in the West, is a rich variety of objects amassed through expeditions, purchases, gifts, and the like. In the interest of curators, directors, presidents, and trustees, as well as generous donors, over the Museum's 111-year history. More recently, where the Museum found parts of the collection weak for the needs of the hall, many — especially Asian-Americans — generously contributed to fill in the gaps. To put this story together, we rooted around through early Annual Reports, expedition memos, old issues of The American Museum Journal, the fifth floor manuscript vaults, and the photographic archives. We've had exciting moments matching up archival photographs of objects now in the hall being used by a people in Asia. The objects in the hall, we discovered, were brought out of Asia through just about every conceivable form of transportation, including porters, camel caravans, mails, dog teams, motor cars, homemade rafts, steamers, and airplanes. It's been a fun way of discovering something about the Asian story to you, and we hope you enjoy it.

Another aspect of this month's Rotunda I'd like to point out is a list of some corporations that have been very important to us. We have devoted a section of page 11 to saying thank you to the 228 corporations that gave us over $500 this past year. In all, corporations gave over $100,000 to the Museum. If any of you work for those companies, you can be proud of your double support of the Museum — both through your own membership and through their corporate gift. Many corporations help us in another way through matching gifts programs. Next time you renew your membership, check to see if they will match your gift. We'd appreciate it.

The Editor, MEMO

Rotunda

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Natural History of Urban Spaces

New York is a people watcher’s paradise. Stop by a street corner in East Harlem or along a plaza on Sixth Avenue and you will see sunbathers, stoop sitters, hot dog vendors, street musicians, smoochers and “shmoozers” (those engaged in idle conversations), and a host of other people doing a myriad of activities.

William Whyte, director of New York City’s Street Life Project has been watching people and studying the way they behave in urban spaces for the past ten years. He will discuss the fascinating and often surprising results of his study at our November Members’ Program, the Natural History of Urban Spaces, on Wednesday, November 12, at 7:30 p.m. in the Auditorium.

Mr. Whyte will use films and remarkable time-lapse photography to illustrate the way people interact with their urban environment. He will explain why some urban spaces are teeming with people and activity, while other spaces have become concrete deserts. He will discuss the entertaining but often subtle social rituals that are practiced in New York streets: why people sit, stand and walk where they do; and how the behavior of New Yorkers compares with that of their big city counterparts around the world.

Mr. Whyte has served on many environmental commissions and written numerous articles on the urban environment, one of which appeared in the August 1980 issue of Natural History magazine.

This program is free to Members and $3.50 for nonmembers. Coffee will be served prior to the program.

A typical crowded plaza in New York can tell us a great deal about human behavior in the city. Learn about the natural history of urban spaces at the November Members’ program on Wednesday, November 12.

Participating, Donor, and Elected Members are invited to join a special Behind-the-Scenes Tour at the American Museum of Natural History Thursday evening, November 13. Saturday, November 15. Wednesday evening, November 19.

You will be taken to these fascinating areas of the Museum, closed to the general public:
Department of Exhibition
Department of Ichthyology

You will meet members of the Museum staff at each location. The tour will last approximately an hour and a quarter. Light refreshments will be served at the conclusion of the tour. Reservations at $6.00 each can be made by completing and returning the adjacent coupon. Early reservations for the limited places are advised.

Watch Museum preparators in action on a Behind-the-Scenes tour of the Department of Exhibition. The tour will also visit the Department of Ichthyology (fish), where Members can meet curators and hear about their research.

Tour will leave at fifteen minute intervals beginning at 5:00 p.m. on Thursday, November 13, and Wednesday, November 19, and at 10:15 a.m. on Saturday, November 15. We will send you a confirmation card by mail. Your card will indicate the exact time your tour will start.

All reservations received by October 15 will be treated on an equal basis.

Please indicate a first, second, and third choice.
I would prefer:

Thursday, November 13, between 5:00 p.m. and 6:30 p.m.
Thursday, November 13, between 6:30 p.m. and 8:00 p.m.
Saturday, November 15, between 10:15 a.m. and 12:00 noon.
Saturday, November 15, between 1:00 p.m. and 3:30 p.m.
Wednesday, November 19, between 5:00 p.m. and 6:30 p.m.
Wednesday, November 19, between 6:30 p.m. and 8:00 p.m.

Enclosed in my check for $ to reserve places at $6.00 each for the Behind-the-Scenes Tour.

Name:
Address:
Daytime phone:
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 Tours, Membership Office, American Museum of Natural History, Central Park West at 79th Street, New York NY 10024.
Urban Explorations

Sidney Horenstein of the Museum's Department of Invertebrates has led Members on fossil tours down Fifth Avenue, around Roosevelt Island, and through Central Park. This fall, he will continue his urban explorations with tours of Battery Park and Riverside Park.

**Battery Park.** Members will learn about both the history and natural history of this park, named for the battery of cannons that stood there between 1663 and 1688. Members will view 350-million-year-old fossils embedded in the base of one of the park's monuments and explore Castle Clinton, a building that has served as a fort, auditorium, immigration station and aquarium. Mr. Horenstein will point out the varieties of trees that dot the park's landscape and discuss the different stones used to construct the buildings that surround the park's perimeter.

**Riverside Park.** Located in Manhattan's Upper West Side, Riverside Park provides an excellent vantage point to learn about the geological forces that shaped New York City and its environs. Mr. Horenstein will point out evidence of glaciers that covered New York thousands of years ago. He will explain how they sculpted New York's landscape and what people have done to reshape it. Members will also learn how the Hudson River and the Palisades of New Jersey were formed. The tour will look at the different trees and plants that abound in Riverside Park, and at the end of the tour, Members can stroll down Riverside Drive to look at different building stones.

These tours are open only to Participating, Donor, and Elected Members of the Museum. The fee for each tour is $3.50 per person. To join, please use the adjacent coupon.

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**Membership Highlights Tours**

Over 2,000 Members have participated in our Membership Highlights Tour program since its inception in 1978. These tours, led by Museum volunteers, give members an in-depth look at some of the Museum's most fascinating exhibition halls. We are pleased to announce the following tours for October, November and December of 1983.

**Oceanic Birds.** In the space of an hour this tour will take you on a bird walk that encompasses thousands of miles of the Pacific Ocean and its islands. You will see puffins nesting along the cliffs of the Bering Strait and birds of paradise on the islands of Papua New Guinea. Members will learn about the albatross, which has the largest wingspan of any bird. Darwin will be here to discuss his theory of evolution, and the nene, the native bird of Hawaii. The tour will focus upon how these and other birds have adapted to their environments.

**Deserts.** Contrary to popular belief, deserts are not merely lifeless wastelands. In fact, 149 different species of plants and animals inhabit the deserts of the world. This tour will take you to the Sahara and Kalahari deserts of Africa, the Gobi desert of central Asia and the deserts of the American southwest to learn the survival strategies plants, animals, and humans have developed to cope with this harsh environment.

**Minerals and Gems.** The Star of India, weighing 565 carats, is the largest blue star sapphire in the world. It is one of many beautiful sapphires, emeralds, diamonds and other gems that Members will view during this tour. Members will also be able to see and touch the largest topaz crystal in the world, a piece of jade weighing two tons, a specimen of petrified wood, and the inside of a geode.

**Northwest Coast Indians.** This tour will first venture into the halls of North American Forests and North American Mammals to look at the Olympic rain forest and the animals that are an integral part of the cultures of the Northwest Coast. The tour will then proceed to the Hall of Northwest Coast Indians. There a fascinating array of objects will greet you, including magnificent totem poles, a 64-foot Haida canoe, Chilkat blankets woven from the wool of a mountain goat, wooden boxes sewn together with spruce roots, intricately carved pipes, and, of course, the brightly colored and fantastic masks for which the Northwest Coast cultures are famous.

**Amphibians and Reptiles.** What's the difference between a crocodile and an alligator? Why does a snake flick out its tongue? How does a frog make its call? This tour will answer these and other questions about the fascinating world of reptiles and amphibians. There are numerous desert habitat exhibits scattered throughout the Museum. Learn about deserts on one of several membership Highlights Tours this fall.

Please register me for the tour(s) marked below.

**Battery Park.**

- October 25, 1:00 p.m. tour Saturday, October 25.
- There will be an overflow tour at 3:00 p.m. if the other two are filled. Please check this space if you can attend this tour.

**Riverside Park.**

- November 2, 1:00 p.m. tour Sunday, November 2.
- There will be an overflow tour at 3:00 p.m. if the other two are filled. Please check this space if you can attend this tour.

Members are invited to tour Manhattan's Battery Park (pictured here) or Riverside Park with geologist Sidney Horenstein.

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I would like to sign up for the following tour. Please sign up for one tour only and indicate an alternate choice.

**Amphibians and Reptiles.** Sun., Oct. 19 at 11:00 a.m.

**Minerals and Gems.** Wed., Oct. 22 at 6:30 p.m.

**Deserts.** Wed., Oct. 29 at 6:30 p.m.

**Amphibians and Reptiles.** Sat., Nov. 1 at 10:30 a.m.

**Minerals and Gems.** Wed., Nov. 5 at 6:30 p.m.

**Deserts.** Sun., Nov. 9 at 11:00 a.m.

**Oceanic Birds.** Sun., Nov. 16 at 11:00 a.m.

**Minerals and Gems.** Wed., Dec. 10 at 6:30 p.m.

**Oceanic Birds.** Wed., Dec. 17 at 5:30 p.m.

**Deserts.** Sat., Dec. 20 at 11:00 a.m.

**Northwest Coast Indians.** Tues., Dec. 23 at 11:00 a.m.

I would like to attend both tours I signed up for if there is space available.

**Number of people:**

Name:

Address:

City: State: Zip:

Daytime phone:

Membership Category:

Please mail with a self-addressed, stamped envelope to: Members' Tours, American Museum of Natural History, Central Park West at 79th Street, New York, NY 10024.
Asian Dance
Three free performances of Asian dance and music will be presented in the Auditorium in October and November.

On Wednesday, October 29 at 7:00 p.m., Indoensia and her daughter Sukanya will present classical Indian dances. They will perform in the Bharata Natyam, Kuchipudi, and Ondsi styles.

On Sunday, November 2 at 2:00 p.m., Japanese dancer Saeko Ichimura and her company will perform modern dance inspired by the Japanese tradition.

On Wednesday, November 5 at 7:00 p.m., the Chinese Musical Ensemble of New York will present an evening of traditional Chinese music and some modern compositions.

Free tickets will be distributed on a first-come, first-served basis near the first floor Information Desk beginning two hours before each performance. No tickets may be reserved.

For more information, call 873-1300, ext. 559.

Epic Film on Nepal
On Wednesday evening, October 15, an epic film achievement by Michael Oppitz will be presented in the Auditorium. Filmed in Nepal, Shans of the Blind Country examines the lives of traditional healers of the Northern Magar tribe to the Himalayas.

Because of its unusual length, (3 hours and 40 minutes) the program will begin promptly at 6:00 p.m. Dr. Oppitz will give a brief introduction and will respond to questions afterwards. This film is not recommended for children.

Weekend Films
Those interested in exploring Asia through film are invited to four weekends of free film presented in the Auditorium this fall. The films will be repeated each day.

India: October 18 and 19

Japan: October 25 and 26. Two films by John Nathan will be featured.
2:00 — Full Moon Lunch. 1977. Tokyo family makes lunches for Buddhist temple ceremonies.

The Himalayas: November 9 and 10
2:00 — Beyond the Forbidden Frontier. C.S. Cutting, 1935. This film, shot during the famous Cutting expedition to Tibet, contains the first footage of Tibetan life.
3:10 — The Living Goddess. Frank Howman. 1978. About the Kundun of Nepal, who select virgins to be living goddesses.

2:00 — Xian, 1980. The ancient Chinese city, including footage of the spectacular treasures of the Han and Tang imperial tomb mounds with thousands of clay warriers.
3:00 — Suzhou, 1980. A city of canals, bridges, gardens, and gardens.
3:30 — Beijing, 1980. Beijing (Peking), China’s imperial capital for 600 years, now becoming a modern center of culture and commerce.

Asian Civilizations
Walter A. Fairservis, Jr., who served as scientific consultant for the new Gardner D. Stout Hall of Asian Peoples, will give a lecture series, Asian Civilizations, on four Thursday evenings starting October 23. Illustrating with color slides, Dr. Fairservis will discuss the religions, family life, and history of the major cultures of Asia. It is especially suited for those who want to learn more about the artifacts, cultures, and peoples featured in the hall. The series runs from 7:30 to 9:00 p.m. in the Auditorium, and is $2.00 ($1.50 for Passporting, Donor, and Elector Members). A special program was previously announced; please call 873-7567 for ticket availability and pre-registration.

People Center Asia Weekends
The People Center is featuring live programs of dance, music, and arts from various Asian cultures. All programs are free, and take place on weekends from 1:00 to 4:30 p.m. in the People Center (second floor, off the Hall of Man in Alumni Hall).

On October 18 and 19, the focus will be on India, its culture and peoples. The programs include classical Indian dance, traditional sitar music, crafts, and palmistry.

On October 25 and 26 and November 1 and 2, Japan is featured in the People Center. Special programs include Kendo (a demonstration of the Kato, a long-strung instrument, and Japanese cooking).

Later weekends will feature the Himalayas (November 9 and 10), China (November 15, 22, 29, and 30), and the Near East (November 9 and 30). Look for details in the November Rounds.

The Holy Land Before Christ.
Clairette Grandolux, professor of classics at Hunter College, will give a slide-illustrated lecture, The Holy Land Before Christ, on December 3, at 7:00 p.m. in the Auditorium. Grandolux will discuss how recent archeological finds have shed new light on our understanding of the Holy Land.

Tickets are $5.00 ($4.00 for Members) and may be obtained by sending a check to the Education Department, American Museum of Natural History, Central Park West at 79th Street, New York, NY 10024.

Japanese Theater
In late December, the National Theater of the Drift with the Touchstone Center at present four short performances based on the life of the Japanese haiku poet, Issa. The Drift actors and costume designer will demonstrate his life and works. The free performances, especially suited for children, will take place on December 27, 28, 29 and 30 at 2:30 p.m. in the Auditorium.

1980 Margaret Mead Film Festival
Films of China, Iran, and the Soviet Union will be shown at the 1980 Margaret Mead Film Festival on Saturday and Sunday, October 4 and 5. A program of films can be obtained at any Museum entrance or by writing to the Education Department (see article page 9).
Expeditions to the East: The Collections in the Hall of Asian Peoples

By Douglas J. Preston

The Museum's magnificent Asian collections, now on display in the Garnet D. Stout Hall of Asian Peoples, are the result of 111 years of expeditions, gifts, and purchases. But more than anything else it is the result of the vision of four men: Franz Boas, Moms K. Jesup, Roy Chapman Andrews, and Harry Shapiro.

One of the grandest projects undertaken by the Museum was the famous Jesup North Pacific Expedition. Moms K. Jesup, a founder and third president of the Museum, believed in the theory that America had been "peopled by migratory tribes from the Asiatic continent." To settle the question, and to set it in a big way, he organized an expedition that remained unique in the history of anthropology. No other expedition has been so ambitious, so extensive, lasted so long, or brought back so much material as the Jesup North Pacific Expedition.

Jesup sent Boas, then a curator of ethnology, in charge of the project. Boas sent expeditions to just about every culture living in areas along the North Pacific rim, including Washington State, the northwest coast, Alaska, the Aleutians, Siberia, Korea, Manchuria, Japan, and China. Boas didn't care at all that much about Jesup's pet theory; it was simply one question among many. Boas had radical ideas for his day, he saw the fragile aboriginal cultures of the circumpacific rim quietly dying under the influence of the West. Boas wanted to preserve as much as he could of these cultures before it was too late, their languages, grammar, myths and stories, religious beliefs and practices, household objects, utensils, dress, weapons, food, even the tobacco and the beards they smoked. He wanted everything. Eventually, it was this approach that later got him into trouble. The Museum administration, watching its precious storage space fill up with what seemed to be junk, finally forbade Boas to bring back even the good that were tens of Russian tobacco collected in eastern Kamchatka, Siberia, or powdered "dragon bones" brought in a Chinese pharmacy? Boas and the Museum parted company.

Boas chose three men to lead the Asian half of the expedition: the German anthropologist Berthold Laufer, and two Russians, Waldemar Jochelson and Waldemar Borgoras.

Laufer began collecting for Boas in Siberia, and later in China where he bought practically the entire contents of a Chinese village, including the clothes off the people's backs.

On one of his first trips, Laufer arrived in Vladivostok on June 19, 1898. From there he landed on the island of Sakhalin in late summer, where he remained throughout the bitter Siberian winter studying the Gilyak, Tungus, and Ainu peoples. On March 4, 1899, he sent the following report to Boas:

My Life on a Siberian Island

"I did not succeed in obtaining any anthropometric measurements. The people were afraid that they would die at once after submitting to this process. Although I had their confidence, I failed in my efforts in this direction, even though offering them presents which they considered of great value. I succeeded in measuring a single individual, a man of imposing stature, who, after the measurements had been taken, fell prostrate on the floor, the picture of despair, groaning, "Now I am going to die to-morrow!"

"I started comparatively late on my journey along the east coast of Sakhalin, because I was detained for two months and a half by a severe attack of influenza. As soon as I had sufficiently recovered, I visited one of the Gilyak villages where the people were celebrating one of their bear festivals. I was welcomed with much delight, since I met several of my acquaintances of last summer. For five days I assisted in the ceremonial, and was even permitted to witness the sacrifice of the dog, which is kept secret from the Russians. On New Year's Eve I reached my southernmost point on the island. On the following day I took phonographic records of songs, which created the greatest sensation among the Russians as well as among the natives. A young Gilyak woman who sang into the instrument said, "It took me so long to learn this song, and this thing has learmed it at once, with..."
and then down to the tributaries of the Anadyr. This journey lasted seventeen days, and nearly exhausted the strength of both dogs and drivers.

"I reached Mforkotky Post on March 26." The results of this work are studies in the ethnography and anthropology of the Chukchee and Asian Eskimo, and partly of the Kamchatadao and of the Pacific Koryak. These studies are illustrated by extensive collections, embracing five thousand ethnographic objects, thirty-three plaster casts of faces, sepulchral skulls and archaeological specimens from abandoned village sites and from graves. Other material obtained includes three hundred tales and traditions, one hundred fifty texts in the Chukchee, Koryak, Kamchatadal and Eskimo languages; dictionaries and grammars of these languages; seventy-one ethnographic records, and measurements of eight hundred sixty individuals. I also made a zoological collection of a few hundred specimens, which constitutes the whole time of my field-work."

The collections that these three explorers brought back were gathered just in time. World War I, the Russian Revolution, the spread of Chretianity, and disease all contributed to the extinction or Russianization of most of the aboriginal peoples of northeast Asia.

Much of the material is now on display in the Hall of Asian Peoples. Here visitors can see the common household objects of the Siberian cultures, including sleds, fags, tea sets, bows, arrows, and other common social and religious objects. The collection is unique: no one else ever thought to carefully gather, record, and study the language, myths, and material artifcats of some of Asia’s most recent cultures.

Boas left in 1905, and the Museum turned its attention to the Americas. It wasn’t until the early 1920s that the Museum once again looked to the East with great interest.

Dune Dweller Burials

On the first expedition in 1921, Andrews and company proceeded by train to Kalgan (Changkaiakow) nestled next to the Great Wall. Here they loaded up their motor cars and began the trek through Mongolia. Andrews kept a journal, which he reworre for the following account of the journey:

- "For seven miles from Kalgan it is all the same - Chinese everywhere. There but Wall was built to keep them from coming through."
- "Near the spot where we camped I found a photograph that was burned in the desert and that was found among the trash."
- "The Mongolians are naturally savage and very a real danger to life."

Andrews and his team went on to other sites, where they discovered and documented the remains of ancient human habitation.

Exploring the Gobi

Roy Chapman Andrews began at the Museum, sifting through the taxidermy department, and soon became curator of mammals. As an young and not terribly scientific mammalogist, he had a theory. The theory, which was enthusiastically supported by the Museum, was that the Gobi Desert was a place where fossils and bones of ancient life could be found. Andrews was the first to suggest this, and he was the first to begin collecting in the area.

Andrews was a tough, sunburnt man who packed a revolver and wore a camouflage belt. He was a good hunter, and he was always on the move. He was very careful to keep his clothes in order, and he was always on the lookout for new fossils and bones.

Andrews discovered the first dinosaur egg in China, and he was the first to describe the Gobi Desert as a place where ancient life could be found. Andrews was a true pioneer in the field of paleontology, and his work was important in establishing the Gobi Desert as a place where fossils and bones of ancient life could be found.
Bringing Back Asia

Waldemar Jochelson and his wife were the first whites to cross the Stanovoi mountains, comprising some of the most forbidding geography in Siberia. After an extremely difficult journey, they descended to the upper reaches of the Korkodon river. Jochelson writes: “By this time our horses were exhausted. Meanwhile, the cold was increasing day by day, and haste was necessary if we were to reach Kolymsk before the closing of the river. Therefore I prepared to descend the river on a raft, hoping thus to reach a camp of the Yukaghir which is located on the course of the Korkodon. It took us a day to build a strong raft, and then we began the descent of the river, made dangerous by numerous rapids and short bends, by the rocky banks and by jams of driftwood. Our guides had intimated that we could make the descent in two days, but instead we spent nine days on the raft.”

Motor cars carried the Third Asiatic Expedition itself, while camel caravans were used to carry water and provisions. (Camels, more than anything else, thrilled Andrews’ sense of adventure.) Here Andrews (left) and paleontologist Walter Granger show a flashlight to one of their Mongol water carriers. Andrews took great delight in showing the “wonders of western technology” to the Mongols. They were, to Andrews’ disappointment, unimpressed.
The enormous size, forbidding terrain, and extreme climate of the Asian continent posed a challenge to Museum expeditions. The problem always was: How do we get there where we want to go? They solved the problem in a number of ingenious ways, including travel by yak, cow, camel, dog, sledge, reindeer, motor car, boat, raft, and airplane. The archival photographs on this page illustrate a few of these unusual modes of transportation.

Evening Lecture Series

The fall program of the Adult Evening Lecture Series will begin in late October. The Education Department has planned a variety of subjects in anthropology, natural history, geology, botany, mineral identification, wilderness exploration, and wildlife drawing. Members receive a discount on series tickets. These courses were listed in the September Rotunda; please call 873-7507 for more information and ticket availability.

Asian Civilizations. Walter A. Fairservis, Jr., scientific consultant for the new Hall of Asian Peoples, will give four richly illustrated lectures on the cultures of the East. Archaeology Today. David Hurst Thomas, chairman and curator in the Department of Anthropology, will explore in four slide-illustrated lectures the world of archaeology and the technical and theoretical breakthroughs of the field that have experienced over the last decade. The Geology of New York. New York's geologic history. Four lectures.

The 1980 Margaret Mead Film Festival

The 1980 Margaret Mead Film Festival will feature an eclectic series of programs, ethnographic films, and discussions with anthropologists. The weekend of October 4 and 5. Notable speakers this year include Jean Rouch, Catherine Bateson (Mead's daughter), Karl Heider, Ray Birdwhistell, and others who will introduce and discuss the films. Establishing diplomatic relations with the People's Republic of China opened that country to filmmakers from the West. Two programs on China will premiere four remarkable films and include discussions with the filmmakers. On Sunday, Lewis Juniels and Boyce Richardson will introduce and discuss their films, North China Commune and North China Factory. On Sunday, three Chinese American filmmakers will show their films, Suzhou and Beijing. Through interviews, scenes of daily life, and portraits of work, the films in various collectives, we see how the economic, political, and cultural changes of the century have transformed the lives of the people.

Film. Margaret Mead felt, is a powerful way of looking into another culture, especially if the filmmaker is a member of that culture. One program this year, Perspectives on Iran, features two Iranian films never before seen in the United States. The films will form the basis for a discussion of Iranian culture and values. Three speakers - Catherine Bateson, William Maghsoudlou (an Iranian filmmaker), and Barlow (an anthropologist who lived in Iran throughout the recent revolution), — will discuss the films and what they can teach us about Iran.

These are only two of the many programs in the 1980 Margaret Mead Film Festival. Other programs include the Black Experience, New Films, Recent Landmarks, Film for Research and Teaching, Dragon Funeral Ceremony, Latin American Faith and Ritual, Dance- Drama in Jaro and Thailand, and Societal Roles Film programs, which were included in the September Rotunda, can be picked up in the Museum before or during the festival. All weekend festival films are free.

California Condor

An exhibit, California Condor: A Species in Peril, examining the threat to this rare bird and the efforts to save it, is in the Roosevelt Rotunda through October 15.

This exhibition includes a mounted California condor and photographs of this impressive bird in its habitat. It also looks at the major threats to this fascinating creature: environmental poisoning, which leads to a gradual thinning of the bird's eggshells; a low reproductive rate; (the condor breeds successfully only once every other year); and urbanization and agricultural development.

There are about 30 adults left, and each year only two chicks survive to adulthood. The exhibition illustrates the radical and controversial steps being taken to save this bird.  

(Top) Like the natives of Siberia, Jochelson found reindeer and sleds were the best form of transportation. He wrote on the back of this photograph: "Mountain Verkhoyansk, ascending my reindeer teams."

(Bottom) Roy Chapman Andrews had the idea of exploring central Asia by motor car. The vast plains of the Gobi made such a means of transportation possible. However, as Andrews wrote, "Motorizing on the Gobi is not quite like rolling down Fifth Avenue."

The California Condor in its natural habitat. An exhibit on the efforts to save this rare bird is currently on display in the Roosevelt Rotunda.
Museum Notes

New Exhibitions

California Condor. A Species in Peril. (Roosevelt Rotunda, second floor.) Through October 15. (See page 9.)

The Gardner D. Stout Hall of Asian Peoples. Opens October 17. The Museum's newest permanent exhibition hall, containing over 3,000 works of art and artifacts. (Articles pages 1, 5, 6, 7, and 8.)

Books on Asia. (Library Gallery, fourth floor.) Opens mid-October. A selection of rare books used to research the new Hall of Asian Peoples.


Natural History magazine
Photo Contest Winners. Center Gallery (next to the People Center)

Programs and Tours

People Center. Opens October 18. Ethnic programs featuring dance, music, films, lectures, and workshops are presented in the People Center every weekend from 1:00 to 4:30 p.m. Refer to the calendar on page 12 for specific events.

Natural Science Center. The Center introduces young people to the varied wildlife, plants, and rocks of New York City. Some exhibits include live animals. The Center is open Tuesday through Friday, 2:00 to 4:30 p.m., and weekends from 1:00 to 4:30 p.m.

Discovery Room. Children are delighted to touch and handle natural history specimens in imaginative "discovery boxes." Starting at 11:45 a.m., free tickets are distributed on a first-come, first-served basis at the first floor Information Desk. The room is open only on weekends from 12:00 to 4:30 p.m.

Museum Highlights Tours. For the new Museum visitor as well as the veteran Museum goer, the Museum Highlights Tour offers fascinating glimpses into the history and exhibits of the Museum's most popular halls. The tours leave regularly from the second floor Information Desk. If you wish to join a free tour, please ask at the information desks for specific tour times.

Discovery Tours. The Museum offers exciting and unusual tours of exotic lands in company with Museum scientists, anthropologists, historians, and natural historians. For more information about tours and itineraries, write to Discovery Tours at the Museum or call 873-1440.

Planetarium Events

The End of the World is the sky show at the Hayden Planetarium through November 24. Sometimes in the future the world will end. Whether it will be by the extinction of the sun, a giant meteorite or comet (as in the artist's conception) or nuclear Armageddon, it is open to debate. The Hayden Planetarium's new sky show, The End of the World, takes a dramatic look at some of the latest theories. The End of the World closes November 24.

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Weekdays: 1:00 and 3:00 p.m.

Weekends: hourly, 1:00 through 5:00 p.m.

Admission for Participating Donor and Elector Members is $2.00 for adults, $1.00 for children. For non-member prices, please call 873-8828 or 873-8829.

Laserium and Cosmic Laser Concerts Under the Stars. For information about time of performances and ticket prices, call 724-8700. Participating Donor and Elector Members receive a 25 cent discount on ticket prices. For other Planetarium information, call 873-1300, ext. 389 between 9:00 a.m. and 5:00 p.m. weekdays.

Worlds in Space. Wednesday, Thursday, Friday, Saturday, Sunday and holidays: 10:00 a.m. to 4:45 p.m. Wednesday: 10:00 a.m. to 8:00 p.m.

Cafeteria Hours: Monday through Saturday: 11:00 a.m. to 4:15 p.m. Wednesday evening: 5:30 to 7:15 p.m. Saturday and Sunday: 12:00 to 4:30 p.m.

Museum Parking Lot. Located on 81st Street. Open Monday through Thursday: 9:30 a.m. to 9:30 p.m. Friday through Sunday: 9:30 a.m. to 12:30 p.m. Rates are $3.75 for cars, $5.00 for buses. Parking is limited.

Coat Checking. The coat check room is located in the basement next to the cafeteria. There is a charge of 40¢ per coat.

Museum Research Stations. Museum Members have visiting privileges at two research stations. If you are planning a visit, write ahead for details.

Archbold Biological Station. Route 2, Box 180, Lake Placid, Florida, 38552.

Southwestern Research Station, Portal, Arizona, 85632.
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<td>October</td>
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<td>5 1980 Margaret Mead Film Festival</td>
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<td>7 2:00 p.m. The Eskimos. Gallery talk with Paul San- ligan. Assemble at first floor Information Desk. Free.</td>
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<td>8 5:30 to 8:30 p.m. Mem- bers’ Preview of the New Hall of Asian Peoples. Open to Participating, Donor, and Elected Members whose last names begin with A-M. Membership card admits two adults and four children. 7:30 p.m. New York Mineralogical Society, Education Hall. Free.</td>
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<td>9 2:00 p.m. Baskets from the Museum’s Collections. Gallery talk with Phyllis Madeland. Assemble at first floor Information Desk. Free. 5:30 p.m. New York Audubon Society, Education Hall. Free.</td>
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<td>11 2:00 p.m. Plants of the Wetlands. Gallery talk with Helmut Schaller. Assemble at first floor Information Desk. Free. 8:00 p.m. Lincoln Society, Education Hall. Free.</td>
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<td>13 2:00 p.m. Indians of Mexico. Fram Bonts to Empires. Gallery talk with Nat Johnson. Assemble at the first floor Information Desk. Free. 8:00 p.m. New York Mineralogical Society, Room 129. Free.</td>
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<td>20:45 p.m. American Ceramic Society, Room 219. Free. 1:00 to 4:30 p.m. India. Live programs of dance, music, crafts of India. People Center. Free. 2:00 p.m. India Films, Auditorium. Free. (See article page 5.) 2:00 p.m. N.Y. Turtle and Tortoise Society. Room 129. N.Y. Paleon- tological Society. Room 426. Both free.</td>
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<td>22 2:00 p.m. The October Members' program. Urban Spaces, has been moved to Wednesday, November 12.</td>
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<td>25 2:00 p.m. Indians of the Plains. Gallery talk with Paul Sanderson. Assembly at first floor Information Desk. Free</td>
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<td>26 11:00 a.m., 1:30 p.m., 3:30 p.m. Ghost Stories Around the World. Members program with Laura Sims and Jackie Torrence. Education Hall. Free for members. $3.00 for non-members. (Article page 2.) 1:00 to 4:30 p.m. Japan. People Center. Free. (See Oct. 25.) 2:00 p.m. Japan Films, Auditorium. Free. (See Oct. 25.)</td>
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<td>29 2:00 p.m. Indian and Asian Art. Classical Indian Dance. Auditory. Tickets will be given out free near first floor Information Desk beginning at 5:00 p.m. No reservations accepted. (Article page 5.)</td>
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<td>30 2:00 p.m. What is Ectology? Gallery talk with Helmut Schiller. Assemble at first floor Information Desk. Free. Last quarter (half moon)</td>
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<td>31 Profiles of the Past: Geology of Three Southwest Canyons. Major exhibition on the Bryce, Zion, and Grand Canyons. Gallery 77. (Look for details in the November Roundup.)</td>
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American Museum of Natural History
EXPERIENCE
THE
MIRACLE...

at the American Museum
of Natural History

in 1935, the poet e.e. cummings wrote to a friend in Europe:
"There is a miracle in NYC. This miracle is worth your travelling
to NYC. This miracle is a "natural" history museum . . . ."

The American Museum of Natural History is a treasure house filled
with once-in-a-lifetime experiences. A visit can mean standing
eye to eye with an Olmec god or eye to knee with Tyrannosaurus
Rex. It can mean walking by an elephant stampede or touching
the largest topaz crystal in the world.

Membership in the Museum gives you a chance to experience the
"miracle," to delve into the intricacies of nature and the variety of
human cultures. And, as a Member, you will be helping to support
the vital scientific and educational programs that have made the
Museum one of the world's foremost research institutions.

Here's what you will be giving to yourself and your family (or a
friend) if you join the Museum:

Rotunda, the Museum's newsletter delivered to your home ten
times a year, with advance notice of all programs and events.

Natural History magazine, 12 issues filled with stunning photog-
raphy and fascinating articles about the natural world.

Free admission to the Museum at all times for a whole family, or
two adults and four children.

Invitations to special previews, private viewings, and social
events celebrating the opening of new halls and major exhibi-
tions.

Free films and lectures every month, given by anthropologists,
naturalists, scientists, filmmakers, writers, and others who will
challenge you with their ideas and fascinate you with their
knowledge.

Free weekend programs and workshops for your family.

Large discounts at all Museum and Planetarium shops.

Large discounts for Museum and Planetarium courses, evening
lecture series, and film series.

Special prices on tickets to many events.

Invitations to Behind-the-Scenes tours of the Museum's scien-
tific departments and research labs, where you will meet
curators and scientists.

Visiting privileges to the elegant Members' Reception Lounge.

Visiting privileges to Museum field stations in Florida and
Arizona.

Yes! I would like to become a Member of the Museum and
receive Natural History magazine, Rotunda, and all the ben-
efits listed above:

( ) $30 Participating Membership (a family/dual member-
ship)
( ) $50 Donor Membership
( ) $100 Donor Membership (Donor Membership has the
same benefits as Participating, plus recognition of hav-
ing made a significant contribution to the Museum)

Name: ____________________________ (Please print clearly)
Address: ____________________________
City: ____________ State: ____________ Zip: ____________

Please make check out to the American Museum of Natural
History and mail to: Membership Office, American Museum
of Natural History, Central Park West at 79th Street, New
York, NY 10024. Please allow six to eight weeks to receive
your first copy of Natural History magazine.
Amphibian and Reptile Day

Sunday, November 23 is Members' Amphibian and Reptile Day. Members venturing into Gallery 3 will see living and mounted specimens of animals whose ancestors roamed the Earth 300 million years ago. There will be 9-inch giant toads from Surinam, box turtles, wood turtles, lizards, fox snakes, a boa constrictor, leopard frogs and a frog that carries its eggs on its back. You will be able to touch a turtle skull, shake a rattlesnake's rattle, listen to the bullfrog's call and draw your favorite reptile on our reptile-o-scope. Scientists from the Museum's Department of Herpetology will be on hand to discuss the natural history of amphibians and reptiles and answer any questions you may have. They will show you the research the department is doing on an all-female species of lizard and the color patterns of king snakes. They will also demonstrate the use of snake hooks, lizard nooses and turtle traps and explain how scientists from around the world use the Museum's collection of a quarter of a million specimens. We hope you will join us for what promises to be a fascinating look at some of the world's strangest creatures. The program will be held from noon to 4:30 p.m. on Sunday.

While this giant tree frog from Trinidad will not be able to make it to Membership's Amphibian and Reptile day, November 23, a giant toad from Surinam, and a host of frogs, lizards, snakes and turtles will be there.
**Urban Activity**

New York is a people watcher’s paradise. Stop by a street corner in East Harlem or along a Plaza in Sixth Avenue and you will see sunbathers, stoop sitters, hot dog vendors, street musicians, smokers and “shmoozers” (those engaged in idle conversation), and a host of other people doing a myriad of activities.

William Whyte, director of New York City’s Street Life Project, has been watching people and studying the way they behave in urban spaces for the last ten years. He will discuss the fascinating and often surprising results of his study at our November Members’ Program, the National History of Urban Spaces, on Wednesday, November 12, at 7:30 p.m. in the Auditorium.

Mr. Whyte will use Sims and remarkable time-lapse photography to illustrate the way people interact and use their urban environment. He will explain why some urban spaces are teeming with people and activity, while other spaces have become concrete deserts. He will discuss the entertaining but often subtle social rituals that are practiced in New York streets: why people sit, stand and walk where they do, and how the behavior of New Yorkers compares with that of their big-city counterparts around the world.

Mr. Whyte has served on many environmental commissions and written numerous articles on the urban environment, one of which appeared in the August 1980 issue of Natural History magazine. This program is free to Members and $3.50 for non-members. Coffee will be served prior to the program.

How do people use space in the city? The nature of the space will often determine its use. William Whyte, who studied the way people use places in New York parks and streets for ten years, will discuss his findings and show a film about his project for the November Members program.

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**Members’ Memo**

I have in front of me a “fact sheet” about the Museum compiled by our Department of Public Affairs. Listen to this: about our collections:

- The Museum possesses 34,000,000 specimens, including 15,100,000 insects, 8,000,000 anthropological artifacts, 8,500,000 fossil invertebrates, 1,000,000 birds, 400,000 fish, 330,000 fossil vertebrates, and so on. According to this sheet, we have the largest collections of birds, spiders, whole bones, and fossil mammals in the world.

The collection is, undoubtedly, the living heart of the Museum. Although the research, exhibition, and educational aspects of the Museum are of vital importance, it is from the collections that these other activities ultimately derive their livelihood. The storage and preservation of these collections have always been a major concern of the Museum. It would be no exaggeration to say that nearly every available square foot of storage space is crammed with specimens, from the world’s largest meteorite to the world’s smallest bee. Each collection poses its own peculiar problems of storage and care; a dragonfly, after all, is quite different from a brontosaurus rib.

One of my most fascinating experiences in the Museum was exploring some of the storage rooms, vaults, and preparation areas. My first tour was of the dinosaur bone storage rooms; to get there, my guide led me through a maze of dimly under-ground passageways lined with rumbling steam pipes to an ancient padlocked door.

Here I found something quite different from the polished, articulated skeletons in the dinosaur halls: here were literally thousands of bones stuffed on heavy metal shelves reaching to the ceiling. The smaller bones were kept in cans, but the larger ones sat on the shelves in the open air or covered with plastic sheets. I could see, for example, skeletons imbedded in them, slabs of fossilized footprints in mudstones and shales, six-foot femurs stacked up like cordwood, hundreds of massive vertebrates, and other fantastic shapes stretching the length and breadth of this enormous room. The bones are fairly simple. Since they are usually mineralized, and thus inert, they don’t require air-conditioning, cleaning, or an insect-free environment. Each bone is numbered and backed up by detailed and exact information, such as where it was found, in what geological formation, in what position, with what other bones, and so forth. The skeletons are much easier to study, disarticulated, which is how they remain in storage. Across the hall is a crate storage room, the bulk of which has never been opened up.

The vertebrae paleontology collection is hardly just an array of dusty bones; it is constantly growing, changing, and yielding new and important information about the natural world and the evolution of life. Last year, for example, curators in the Department of Vertebrate Paleontology published over 40 scientific articles based on their collection, and hundreds more papers were published by outside scientists who either studied the collection in the Museum or studied specimens loaned to them by the Museum.
The Origami Whale and Other Natural History Paper Folds

Can you fold the whale diagrammed on this page? Try it and then come to Membership’s Third Annual Origami Workshop on Saturday, December 6 in the Education Hall.

The art of Origami developed in Asia perhaps 1,000 years ago. To celebrate the opening of the Hall of Asian Peoples, this year’s workshop will feature classic Asian paperfolds. Members will learn how to magically transform squares of paper into swans, butterflies, black-and-white pandas, a star basket and a traditional water bomb. Advanced folders will create blow-up frogs, lilies, and the flapping bird. The workshops will be taught by Alice Gray and Michael Shall with the assistance of Museum volunteers and The Friends of the Origami Center of America. These are the same people who create the beautiful Origami Holiday Tree that is on display in the Museum every winter.

To register, please fill out the adjacent coupon. The workshop is open only to Participating, Donor, and Elected Members of the Museum. This workshop always fills up rapidly so early registration is advised.

WHALE

1 Use a square of paper. If it is colored on one side only, put the white side up. Fold in half diagonally.

2 Unfold.

3 Fold in half on the other diagonal. Unfold.

4 Bring two adjacent edges to meet on one of the diagonal creases.

5 Pinch.

6 Repeat step 7 on the other side of the body.

7 Pinch the sides of the ear together from the tip and press it down flat, pointing toward the head end. It will become one flipper of the whale.

8 Fold both flippers back so that the tips hang down.

9 Hold here.

10 Keep the head end pinched shut. Reach inside the tail end from the top and pull up the tail. Press flat.

FINISHED WHALE

Please register for the Origami Workshop marked below. (Indicate first and second choice of times)

<table>
<thead>
<tr>
<th>Time</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>10:30 a.m.</td>
<td>origami workshop</td>
</tr>
<tr>
<td>11:30 a.m.</td>
<td>origami workshop</td>
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<tr>
<td>1:30 p.m.</td>
<td>origami workshop</td>
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<tr>
<td>2:30 p.m.</td>
<td>origami workshop</td>
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<tr>
<td>3:30 p.m.</td>
<td>origami workshop</td>
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</tbody>
</table>

There will be an overflow workshop at 12:30 p.m. if the other workshops are filled. Please check this space if you could attend this workshop.

Number of People __________ (I can fold the classic flapping bird)

Name: ________________________

Address: _____________________

City: ________________________ State: ______ Zip: ______

Membership category: _______

(This workshop is open only to Participating, Donor, and Elected Members of the Museum)

Please mail application and self-addressed, stamped envelope to Origami Workshop Membership Office, American Museum of Natural History, Central Park West at 79th Street, New York, NY 10024. After November 23, please call 873-1327 for reservation information.)
Time and the River

An exhibition on the geology of the Grand Canyon, Zion Canyon, and Bryce Canyon is currently in Gallery 77. Profiles of the Past: The Geology of Three Southwest Canyons explores the geologic history of the canyons and traces the development of life through the fossil evidence in the canyons’ walls.

The three canyons have a very special relationship: the layers of rock they cut through can be compared to form a complete sequence of events spanning 2 billion years. The bottom layer of Bryce, for example, is the top layer of Zion, and the bottom layer of Zion is the top layer of the Grand Canyon. By studying the canyons’ walls, geologists can “read” in the sediments both the history of the rocks and the development of life on the planet.

The central feature of Profiles of the Past are three gigantic photographs — one per canyon — each measuring 8 feet by 36 feet. They give the visitor the feeling of walking along the rims of each canyon, while taking a journey back in time as each succeeding canyon cuts deeper into the layers of rock. Geologists have found all kinds of sedimentary deposits in the canyons, including marine deposits, sand dunes, river deltas, mudflats, lakes, coral reefs, algal and flood plain deposits. The exhibition begins with Bryce Canyon, whose sedimentary layers were laid down in Cambrian times beginning about 40 million years ago. Fossils from the canyon’s walls illustrate the life of the period, and include turtles, small mammals, and freshwater clams. Further on, the visitor comes to Zion Canyon which cuts through Mesozoic rock deposited during the age of dinosaurs. Footprints of dinosaurs are displayed with the fossils of other Mesozoic life. And finally, the oldest of the three, the Grand Canyon, whose primitive fossils include trilobites, ammonites, ferns, corals, and snails. At the bottom of the Grand Canyon is the ancient Vishnu schist, a dark folded rock that was deposited over 1 billion years before multicellular life had developed on the earth.

A scale model of the Grand Canyon, on loan from the Smithsonian Institution, will also be displayed with drawings, maps, and other informative and illustrative material.

Flying Fantasies

An exhibit of colorful photographs of butterflies and moths will go on display in the Akeley Gallery on Thursday, November 6.

Kjell Sandved, a natural history photographer with the Smithsonian Institution, has created a series of detailed, close-up photographs of these insects, revealing the stunning coloration and complex pattern in both the adult and larval stages. We can see how different species use color in different ways — to mimic, to confuse and frighten, or to camouflage.

The exhibit is an exhibit on loan from the Smithsonian Institution Traveling Exhibition Service.

A photograph of Sosastra gratiosa, one of many color photographs of butterflies and moths on display, in the Akeley Gallery.
As the sun begins to sink, the tent is taken down, the beds are made, campfire built, and the firelight creates a warm, cozy atmosphere. The group settles in for an evening of storytelling and sharing stories from their day's adventures. The air is filled with laughter and camaraderie as everyone enjoys the natural beauty of the Kalahari Desert.
New Exhibitions

The Gardner D. Stout
Hall of Asian Peoples. The Museum’s newest permanent exhibition hall, containing over 3,000 works of art and artifacts. For the Week Past: The Geology of Three Southwest Canyons. (Gallery 77, first floor.) Photographs, rock samples, geologic maps, fossils, and other illustrative material on the geology of the Grand Canyon, Bryce Canyon, and ZIon Canyon. (Article page 4.)


Programs and Tours

People Center. Ethnic programs featuring dance, music, films, lectures, and workshops are presented at the People Center every weekend from 1:00 to 4:30 p.m. Refer to the calendar for page 8 for specific events.

Natural Science Center. The Center introduces young people to the varied wildlife, plants, and rocks of New York City. Some exhibits include live animals. The Center is open Tuesday through Friday, 2:00 to 4:30 p.m., and weekends from 1:00 to 4:30 p.m.

Discovery Room. Children are delighted to touch and handle the many exciting specimens in imaginative “discovery boxes.” Starting at 11:45 a.m., free tickets are distributed on a first-come, first-served basis at the first floor Information Desk. The room is open only on weekends from noon to 4:30 p.m.

Museum Highlights Tours. For the new Museum visitors as well as the veteran, Museum guides, the Museum Highlights Tours offer fascinating glimpses into the history and exhibits of the Museum’s most popular halls. The tours leave regularly from the second floor Information Desk. If you wish to join a free tour, please ask the Information desks for specific tour times.

Discovery Tours. The Museum offers exciting and unusual tours of exotic lands in cooperation with Museum scientists, archeologists, anthropologists, historians, and natural historians. For information about tours and itineraries, write to Discovery Tours at the Museum or call 873-1440.

Planetarium Events

The End of the World is Sky show at the Hayden Planetarium through November 24. Sometime in the future the world will end. How will it end—whether by death of the sun, collision with an asteroid, the coming of a new ice-age, or nuclear Armageddon—is open to debate. The End of the World takes a dramatic look at the current theories. Sky show times: Weekdays: 2:00 and 3:30 p.m. Weekends: hourly, 1:00 through 5:00 p.m.

Admission for Participating Donor, and Elected Members is $2.00 for adults, $1.00 for children. For non-member prices, please call 873-8825 or 873-8829.

Laserium and Cosmic Laser Concerts Under the Stars. For the first time of performances and ticket prices, call 724-8700. Participating Donor, and Elected Members receive a 25 percent discount on ticket prices.

For other Museum information, call 873-1300, ext. 389 between 9:00 a.m. and 5:00 p.m. weekdays.

Worlds in Space. Wednesday, 7:30 p.m. Explore the solar system and learn about the very latest discoveries at this live sky show.

Museum Information

Museum Hours. Monday, Tuesday, Thursday, Friday, Saturday, Sunday, Saturday and holidays: 10:00 a.m. to 4:45 p.m. Sunday: 10:00 a.m. to 8:00 p.m.

Cafeteria Hours. Monday through Saturday: 11:00 a.m. to 4:15 p.m. Wednesday evenings: 5:30 to 7:00 p.m. Sunday: 11:30 a.m. to 4:30 p.m.

Museum Parking Lot. Located on 81st Street. Open Monday through Thursday: 9:30 a.m. to 9:30 p.m. Friday through Sunday: 9:30 a.m. to 12:30 p.m. Rates are $3.75 for cars, $5.00 for buses. Parking is limited.

Coat Checking. The coat check room is located in the basement next to the cafeteria. There is a charge of 40¢ per coat.

Museum Research Stations. Museum Members have visiting privileges at two research stations. If you are planning a visit, write ahead for details.

Archbold Biological Station, Route 2, Box 188, Lake Placid, Florida 12946

Southwestern Research Station, Portal, Arizona, 85632

Focus on Asia

Asia Live

The People Center is presenting four visitors in November on the crafts, dance, music, and traditional cooking of several cultures of Asia. The programs are live and run every weekend from 1:00 to 4:30 p.m.: on November 7, 11, 14, and 18, with Japan; and November 9, 13, 16, and 20, with China. On November 29 and 30, and the Middle East. On Thursday, November 6 and Tuesday, November 18, Members are invited to join a first tour of the Gardner D. Stout Hall of Asian Peoples. "Assemble at the first floor Information Desk at 2:00 p.m. on the day of the tour.

Asia Films

The weekend film programs on Asia will be continuing through November, and will feature the cultures of the Himalayas and China.

Included in the program will be the famous C. Suydam Cuttmg film, Beyond the Forbidden Frontier, which was the first film to enter Lhasa, the center of Tibetan religious life. To gain the privilege, he spent the Dalai Lama such presents as fine handkins, gold watches, and beaten appliances.

Music & Dance

A program of modern Japanese dance will be presented at the Museum on Sunday, November 2 at 2:00 p.m. in the Auditorium.


2:00 — Beyond the Forbidden Frontier. C.S. Cuttmg, 1935. The first footage of the Tibetan life.


China. November 15 and 16.

1:30 — China through the eyes of Chinese-Americans. Sue Yung Li and Shirley Sun, 1980. The ancient Chinese city, including footage of the spectacular treasures of the Han and Tang imperial tombs with thousands of clay warriors. (some of which were recently exhibited in the United States.) A complete schedule of films appears below. All films are free and shown in the Auditorium.


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Asian scenery and the company will perform modern dance pieces based on traditional Japanese dance. 

The Holy Land

The Holy Land already had an ancient and complex history by the time of Christ. For years archaeologists have been uncovering clues to its ancient civilizations, including ruins of fortresses, cities, desert palaces, and such artifacts as plastered and painted skulls, hippopotamus tusk sculptures, relics in ivory, and precious stones. Little by little, these discoveries have built an intimate picture that adds new significance to some of the Bible stories and the civilizations that recorded them. "Dr. Claire Grandjouan, professor of classics at Hunter College, will give an illustrated lecture. The Holy Land Before Christ, on Wednesday, December 3 at 7:00 p.m., in the Auditorium. Dr. Grandjouan has given lectures at the Museum before, most recently during the exhibition ROMPEL AD. The tickets are $3 (4 for Participating Donor, and Elected Members) and may be ordered with the adjacent coupon. For more information, call 873-7507. Members are advised to reserve tickets as early as possible.

I would like to order tickets to the Holy Land Before Christ. Tickets are $3 each (4 for Donating, and Elected Members). No. of tickets: Amount enclosed:

Name: Address:

City: State: Zip:

Membership category:

Endorse check payable to the American Museum of Natural History, 79th and Central Park West, New York, N.Y. 10024

Advance registration is required. Any remaining tickets, if available, may be purchased at the Auditorium door on the evening of the lecture. For information, call 873-7507.
November

2 1:00 to 4:30 p.m. Japaln. (See November 1) People Center. Free.
4 2:00 p.m. Japanese Modern Dance with Sachiyo Ishimine. Auditorium. Free. (Page 6.)
3 Riverside Park Tour with Sidney Horenstein. Call 873-1327 for reservation information.

8 1:00 to 4:30 p.m. Himalayas. Special series of lecture-demonstrations on the peoples of the Himalayas, their crafts, religions, music, and dance. People Center. Free.
9 1:00 to 4:30 p.m. Himalaya. Films. Auditorium. Free. (Article page 6.)
10 2:00 p.m. New York Shell Club. Room 425. Free.

14 1:00 to 4:30 p.m. China. Special series of lectures on the peoples, crafts, and cultures of China. People Center. Free.
16 Behind-the-Scenes Tour. Participating, Donor and Elected Members only. $6.00. Call 873-1327.
17 First quarter (half moon).
18 Leonid meteor shower
19 8:00 p.m. New York Astronomical Society. Room 129 Free.
20 Behind-the-Scenes Tour. Participating, Donor and Elected Members only. $6.00. Call 873-1327.
21 Full moon

22 1:00 to 4:30 p.m. China. Special series of lecture-demonstrations on the peoples, crafts, and cultures of China. People Center. Free.
23 Noon to 4:30 p.m. Amphibian and Reptile Day. Members are invited to learn about reptiles and amphibians with curators and assistants. (Article page 1.)
24 The 1980 Origami Holiday Tree is on display in the Roosevelt Rotunda. More origami animals than ever before, including spiders, giraffes, whales, antelopes, monkeys, and baboons.
25 2:00 p.m. Traditional African Artists. Gallery talk with J. Munoz. Assembly at the first floor Information Desk, Free.
26 Star of Wonder. Sky Show at the Hayden Planetarium opens.
27 Thanksgiving Day. Museum closed for the day
28 Last quarter (half moon)
29 1:00 to 4:30 p.m. Middle East. Special series of lecture-demonstrations on the peoples of the Middle East, and their arts and crafts, music, and dance.
30 1:00 to 4:30 p.m. Middle East People Center. Free. (See November 29.)

American Museum of Natural History
EXPERIENCE
THE MIRACLE...

at the American Museum
of Natural History

In 1935, the poet e.e. cummings wrote to a friend in Europe: "There is a miracle in NYC. This miracle is worth your travelling to NYC. This miracle is a 'natural' history museum..."

The American Museum of Natural History is a treasure house filled with once-in-a-lifetime experiences. A visit can mean standing eye to eye with an Olmec god or eye to knee with Tyrannosaurus Rex. It can mean walking by an elephant stampede or touching the largest topaz crystal in the world.

Membership in the Museum gives you a chance to experience the "miracle," to delve into the intricacies of nature and the variety of human cultures. And, as a Member, you will be helping to support the vital scientific and educational programs that have made the Museum one of the world's foremost research institutions.

Here's what you will be giving to yourself and your family (or a friend) if you join the Museum:

Rotunda, the Museum's newsletter delivered to your home ten times a year, with advance notice of all programs and events.
Natural History magazine, 12 issues filled with stunning photography and fascinating articles about the natural world.
Free admission to the Museum at all times for a whole family, or two adults and four children.
Invitations to special praviwa, private viewings, and social events celebrating the opening of new halls and major exhibitions.
Free films and lectures every month, given by anthropologists, naturalists, scientists, filmmakers, writers, and others who will challenge you with their ideas and fascinate you with their knowledge.
Free weekend programs and workshops for your family.
Large discounts at all Museum and Planetarium shops.
Large discounts for Museum and Planetarium courses, evening lecture series, and film series.
Special prices on tickets to many events.
Invitations to Behind-the-Scenes tours of the Museum's scientific departments and research labs, where you will meet curators and scientists.
Visiting privileges to the elegant Members' Reception Lounge.
Visiting privileges to Museum field stations in Florida and Arizona.

Yes! I would like to become a Member of the Museum and receive Natural History magazine, Rotunda, and all the benefits listed above:

( ) $30 Participating Membership (a family/dual membership)
( ) $50 Donor Membership
( ) $100 Donor Membership (Donor Membership has the same benefits as Participating, plus recognition of having made a significant contribution to the Museum)

Name: ___________________________ (Please print clearly)
Address: ____________________________________________
City: ___________________ State: ___________ Zip: ________

Please make check out to the American Museum of Natural History and mail to: Membership Office, American Museum of Natural History, Central Park West at 79th Street, New York, NY 10024. Please allow six to eight weeks to receive your first copy of Natural History magazine.
The Year in Review
Rotunda takes you behind the scenes for a look at the activities of scientific departments this past year. Pages 4-5

The Wide World of Dancing
Matteo presents a cornucopia of ethnic dance for the whole family. Page 3

Paper Glory
This year's Origami Holiday Tree is on display in the Roosevelt Rotunda on the second floor of the Museum. Page 2

Belugas to Bears
Four films on man's relationship with animals make up this month's Man and Nature Film Series. Page 2

Fabulous Folk
The musical folk traditions of North and South America visit the Museum with the presentations by Odetta and Tahuantinsuyo. Page 6

Into New Worlds
In 1953, Thomas Gillard of the Museum's Department of Ornithology embarked on an expedition to Papua New Guinea's Sepik River. After three months' exploration in the middle Sepik, the expedition ventured to the headwaters, a region that had never before been explored by scientists. To get there, Gillard flew to a remote airfield built by paratroopers during World War II. Once there, he surveyed the natural history of the area, discovered new sub-species of birds and documented the remnants of a stone-age culture.

Gillard captured his expedition on film and presented it as a Members' lecture in 1960. Although Gillard is no longer alive, the lecture was recorded and has now been combined with his film to make a fascinating document of the expedition. Members will be able to view the film and listen to Gillard's comments at our December Members' program on Wednesday, December 17, 1980 at 7:30 p.m. in the Museum Auditorium. The program will be introduced by Mary Le Croy of the Museum's Department of Ornithology who was a colleague of Gillard, and who has herself just returned from a trip to New Guinea.

Gillard's film includes shots of the beautiful birds of paradise as well as other birds and wildlife of the area. The major portion of the film portrays the aboriginal tribes of the region. There are scenes of villagers preparing for a marriage ceremony, carving and displaying beautiful masks, and fashioning a canoe from a "canoe tree" and launching it into the Sepik River.

A native hunter from the remote Telefomin region of central New Guinea, Thomas Gillard's 1957 expedition to New Guinea will be the subject of our Member's Program on Wednesday, December 17 at 7:30 p.m.

There is also footage of a sixty-six-foot-tall spirit house found in the depths of the forest. The program is free to all categories of Membership. Non-members may purchase tickets for $3.50 at the Auditorium door. Coffee and tea will be served outside the Auditorium before the program begins. Participating, Donor, and Elected Members are entitled to free parking in the Museum Parking Lot for this program.
**Magic, Love, and Paper**

Models were sent in from all over the country, hundreds of volunteers participated, thousands of hours were spent designing, folding, and threading the ornaments, and the resulting magic is none other than the eighth annual Origami Holiday Tree. Designed by Alice Gray, the tree stands twenty-five feet tall, fifteen feet across, and is bedecked with the subtle beauty of folded paper.

Guidance and leadership for the many volunteers was provided by Alice Gray, Michael Shaug and The Friends of the Origami Center of America, whose patience and nimble fingers allow not only for the perpetuity of the tree, but also for the experiences of those who participate.

Those who visit will find the marvelous dinosaurs, pandas, elephants, strawberries, frogs, even cockroaches of years past, and will be pleased to see new creations, as well. Those joining the tradition include scorpions, stoats, rhinoceros, hedgeshogs, daisies, and dragons commemorating the Museum’s new Hall of Asian Peoples.

The tree will be on display in the Roosevelt Rotunda on the second floor of the Museum through Monday, January 3. There will be paperfolding demonstrations near the tree much of the time, so come in and see the magic.

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**Family Films**

Four films on the relationship between man and animals will be shown Saturday and Sunday, December 6-7, in the Museum’s Main Auditorium. Focusing on how man’s influence can both help and harm, the films will run in succession lasting two hours.


2:15 Osprey, Hugh Miles, 1979. Osprey return to the Scottish Highlands.


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**African Rhythms**

On Sunday, December 14 at 1:00 and 3:00 p.m., Dinizulu and his African Dancers, Drummers, and Singers will present a narrated concert in the Museum’s Auditorium. The program will include songs and dances from across Africa, ranging from a South African Wedding Dance to a Nigerian Dance of Competition.

The Company is made up of young Africans, both native and American, who, with their Director, Nana Dinizulu, love the culture of their ancient kings and study them, live them, and especially enjoy presenting their lore. The oldest African dance company in the United States, they have received high acclaim performing here and abroad for all ranges of audience. Thousands of American school children of all cultural and ethnic backgrounds have received their first authentic introduction to African culture with Dinizulu, and this is his second performance at the Museum.

The program has been made possible in part by the New York State Office of Parks and Recreation, and a gift from Evelyn Sharp. Free tickets will be available for all Museum visitors beginning at 11:30 a.m. the day of the performance near the first floor Information Desk.

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**Members’ Memo**

Few things bring in more queries from Members than the parking situation. The parking lot, situated between Central Park West and Columbus Avenue on 82nd Street, has a capacity of 100 cars. Not room for many, when one considers that there can be over 10,000 visitors in the Museum on a given day!

Parking in the lot costs $3.25, but on Member Program Wednesday evenings we provide free parking for our Members. Unfortunately, however, not all Wednesday night programs that Members come to are “Members Programs,” and for those evenings, all visitors are charged for parking. For instance, the Department of Education does a considerable amount of programming on Wednesday evenings and they are not able to provide special parking for their programs.

Since this can be confusing, whenever parking is available free to our Members, we will spell that at the end of our articles. Please note, that parking can only be available to the capacity of the lot. If you are incorrectly charged for parking, please save your parking receipt, and give it to one of us at the Members’ Program, so we can explain the situation to you or arrange a refund.

Someday we do hope to create a larger lot, but as you know, such improvements are costly and must wait for available funding.

The Department of Education has just completed preparing a general pamphlet guide to introduce visitors to the new African Hall of the Museum. Funded by a generous grant from the Storm Foundation, the guide is richly illustrated with photographs of various sections of the new hall. The pamphlet is now available at the information desks.

Douglas Preston, the editor of Rotunda for the past two years, has just been promoted to the position of Publications Editor for Natural History magazine. While we will miss his input on Rotunda and Membership activities, we wish him well. He will continue to write the At the Museum column in Natural History magazine. We have hired Stanton Orser, a recent graduate of Princeton University, to edit Rotunda. He joins us with this issue.

The 1981 Natural History calendar takes a new format this year. The first six-month poster/calendar comes with the December magazine, the second in June 1981.

*Kate Bennett-Mendel*
Holiday Week Performances

The Little Theatre of the Deaf in association with the Touchstone Center will perform in the Main Auditorium at 2:30 p.m., Saturday through Tuesday, December 27-30. The program is based on the life of the renowned haiku poet, Issa, using a combination of his haiku and narration. Four of the actors are deaf and one is hearing. The program will be presented in a theatrical form of sign language using movement and mime, which will be simultaneously narrated. The program works within the theme established by the Touchstone Center this year, which is to look at the Chinese and Japanese perception of nature through the arts.

Richard Lewis, Director of the Touchstone Center, is the writer/director of the production, having adapted the script from his book on Issa, Of This World. The performance is free.

A Family Membership Program
A WORLD OF DANCING with the MATTEO ETHNOAMERICAN DANCE THEATER

Sunday, January 18, 1980 — 2:00 p.m. — Auditorium
$1.00 for Members $4.00 for non-members

Matteo, who presented one of last year’s most popular evening programs, is back again with a dance performance geared especially for families. Matteo and his ethnic dance artists will bring the auditorium to life with a colorful collection of dances from around the world. Dances will include a comical mask dance from Japan; castanets from Spain; jigs and hornpipe dances from Ireland; a kashina from the Middle East; and in a union of East and West, a mudra from India set to one of America’s most popular tunes. Early reservations are advised for what promises to be a delightful afternoon of entertainment. Please use the adjacent coupon.

I would like to order tickets for a WORLD OF DANCING on Sunday, January 15, at 2:00 p.m.

Participating Donor and Elected Members may order up to six tickets at the special Members’ price of $1.00. Associate Members may order one. The non-members price is $4.00 per ticket.

Total Members’ Tickets at $1.00
Total non-members’ tickets at $4.00
Total payment enclosed:

Name:
Address:
Daytime phone:
Membership category:

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

Msks by Mail

Three stamps recently issued by the United States Postal Service in the American Folk Art Series depict masks in the Museum’s collection. Franz Boas, a Museum curator collected the masks and their accompanying myths and stories during the famous Jesup North Pacific Expedition to the Northwest Coast around the turn of the century. The masks, which represent various supernatural beings, were used in the elaborate ceremonies of the Northwest Coast Indians.

Most Northwest Coast art was produced for the heraldic display of family crests or for use in ceremonies; yet the art style of the Northwest Coast Indians so permeated their way of life that even common objects—pipestone pipes, paint-brushes—were elaborately carved. Such art attained its most dramatic form in the monumental totem poles, designed to impress observers with the stature and wealth of their owners. Although the last great flowering of Northwest Coast art took place in the 19th century, Native American artists today continue to produce fine works of art in the Northwest Coast tradition. Interested Members can obtain the first day cover commemorative issue of these stamps at the Museum Shop, and the Post Office has assured us that stamps will be available throughout the holiday season.
The Year in Review

The Annual Report for fiscal year 1979-1980 has just been published, revealing fascinating behind-the-scenes information about the Museum. Since we have kept you up to date on the Museum's exhibitions and programs this past year, we have selected these random moments to show you the kind of work some of the hundreds of scientists and their assistants do daily. This past year they have been busy working on the collections (identification, preservation, and storage), their ongoing research projects (they published over 260 research papers), and the education of future scientists.

Write us here at the Museum, care of the Membership Office, if you would like your own copy of the Annual Report to learn more about all aspects of the Museum's operations and goals.

Dr. Charles Cole and Carol Townsend, two scientists in the Department of Herpetology, discuss their research on the evolution of parthenogenetic lizards. Curiously, some lizards have evolved into all-female species in which each adult reproduces independently.

Besides the 260 articles published by staff in scientific publications throughout the year, the Museum has an active publications schedule of its own. Norman Hillman and Charles di Bisceglie of the Micropaleontology Press (Department of Invertebrates) are shown here mounting negatives of micro-fossils for publication.

A visit by a delegation of paleontologists from the People's Republic of China emphasized the Department of Vertebrate Paleontology's long involvement in the study of China and Mongolia. Studies were done on parts of the department's collection pertaining to the delegation's own research.

This year, 53 thousand dollars were used by researchers training future scientists to use modern techniques in research.
The identification of each of 23 million specimens is an ongoing concern of the Department of Entomology. Louis Sorkin spends much of his time exactly as shown here, identifying the hundreds of thousands of arachnids (spiders) in the collection.

The collections of the Department of Exhibition and Graphics is a tour-de-force from the Museum's Hall of Late Dinosaurs, for were prepared and several replicas were cast for sale

Overseeing the Department of Anthropology's ongoing work on their storage collection were these and other masks. Under the supervision of Barbara Conklin, the collection is being inventoried, conserved (to preserve the fragile and unstable artifacts), and moved into recently renovated storage areas.

Dr. Karl Koopman of the Department of Paleontology worked with bats from four continents this year as part of his research on the relationships of bats throughout the world. He did a bit of spontaneous field work on November 3 when he caught a migrating bat here at the Museum in the Office of Public Affairs.
**Museum Notes**

**New Exhibitions**

- *Ornament* (Roosevelt Rotunda, second floor.) Asian paper mache armor of the twenty-five foot tree. (Article page 2.)

**The Gardner D. Stout Hall of Asian Peoples.** The Museum’s newest permanent exhibition hall, containing over three thousand works of art and artifacts.

**Profiles of the Past: The Geology of Three Southwest Canyons.** (Gallery 77, first floor.) Photographs, rock samples, geologic maps, fossils, and other illustrative material on the geology of the Grand, Bryce, and Zion canyons.


**Books on Asia.** (Library)

- *Cafeteria Hours.* Monday through Sunday: 11:00 a.m. to 4:15 p.m. Wednesday, evening: 5:30 to 7:30 p.m.

**Sit Like a Buddha**

The Buddha was a man named Siddhartha Gautama who was born in a kingdom near India about 563 B.C. Buddha means “enlightened one.” People who believe in the teachings of Gautama Buddha are members of a religion called Buddhism. It is one of the largest religions in the world. Most of the people who believe in Buddhism live in Asia.

Pictured below is a drawing of a statue of Gautama Buddha which can be found in our new Hall of Asian Peoples. The next time you come to the Museum try looking for this statue, and see if you can find others in the Hall. (Look especially for the Buddha from Japan covered entirely in gold.) While at home, try sitting like the Buddha pictured here!

- *Ujara Auer.*

**Folk Music of the Americas**

Musical folk traditions from North and South America will be the theme of two upcoming evenings at the Museum. On January 14, Odette will present a program of spirituals, blues, ballads, and work songs. A major force in the American folk scene for over 25 years, she was recently proclaimed by the New York Times “the most glorious voice in American Folk Music.”

Two weeks later, the haunting sounds and rhythms of pre-hispanic South America will be featured, January 28, in a program presented by Tahuaninsuyo. The group, which has performed here before, is composed of Pepe Santana, Guillermo Guerrero, and Silvio Ibarra. They will perform songs from Bolivia, Peru, Ecuador, Colombia, Chile, and Argentina. The melodies, harmonic structures, and instruments are all a part of long tradition of South American music which has evolved and combined with more recent Spanish influences.

The Andean Dancers, a group of twelve South American dancers, will accompany them. Each evening is priced at $7.00. Participating, Donor, and Elected Members’ Tickets are available at $6.00. For information, please call 873-7507 on weekdays.

**I would like to order tickets for the following evenings:**

- **Odette**
  - Member Tickets at $6:
  - General Admission Tickets at $7:

- **Tahuaninsuyo**
  - Member Tickets at $6:
  - General Admission Tickets at $7:

Total amount enclosed: __________________________

Name: __________________________

Address: __________________________

City: __________________________ State: __________________________ Zip: __________________________

Daytime phone: __________________________

Membership category: __________________________

Enclose check or money order payable to American Museum of Natural History, and return with self-addressed, stamped envelope. Mail to the Department of Education, American Museum of Natural History, Central Park West at 79th Street, New York, N.Y. 10024

Remaining tickets may be purchased on the evening of the program if still available.
Courses for Stargazers

Astronomy

Introduction to Astronomy.

Aviation

Ground School for Commercial and Instrumental Pilots. Begins January 6, eight sessions, Mondays, 6:30 to 8:40 p.m.; $55 ($49 for Members) Dr. Kostch.

Navigation

How to Use a Telescope. Begins January 5, eight sessions, Mondays, 6:30 to 8:40 p.m. $50 ($49 for Members) Mr. Satch.

For More Information about Planetarium courses, write to the Hayden Planetarium, 81st Street and Central Park West, New York, NY 10024 or call (212) 873-1300 ext. 206 or 211.

The American Museum—Hayden Planetarium is offering a large selection of courses this winter. Early registration is suggested, as class sizes are limited. There is limited free parking at the Museum for students in the evening courses.

Participating, Donor, and Contributing Members receive a ten percent discount to all courses. You may register for courses with the adjacent coupon.

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Courses.

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Young ($49 to Members) Mr. Hess.

Introduction to Celestial Navigation. Begins January 6, eight sessions, Tuesdays, 6:30 to 8:40 p.m. $90 ($81 for Members) Mr. Panham.

Advanced Celestial Navigation. Begins January 8, ten sessions, Thursdays, 6:30 to 8:40 p.m. $90 ($81 for Members) Mr. Panham.

Piloting for Sailboat Operators. Begins January 6, eight sessions, Tuesdays, 6:30 to 8:40 p.m. $55 ($49 for Members) Mr. Helms.

Electronic Navigation. Begins January 5, eight sessions, Mondays, 6:30 to 8:40 p.m. $55 ($49 for Members) Mr. Muellers.

Theory of Celestial Navigation. Begins January 7, eight sessions, Wednesdays, 6:30 to 8:40 p.m. $55 ($49 for Members) Mr. Panham.

For Young People

Introduction to the Sky. Begins January 10, ten sessions, Saturdays, noon to 1:30 p.m. $20 ($18 for Members) Mr. Small.

Astronomy One. Begins January 10, ten sessions, Saturdays, 10:30 to 11:30 a.m. $20 ($18 for Members) Mr. Small.

Astronomy Two. Begins January 10, ten sessions, Saturdays, 9:30 to 10:30 a.m. $20 ($18 for Members) Mr. Small.

Astronomy Three. Begins January 10, five sessions, Saturdays, 11:00 a.m. to 12:40 p.m. $15 ($13.50 for Members) Mr. Thomas.

**I would like to register for the following Planetarium course(s):**

**Course:**

**Price:**

**Class beginning:**

**Name:**

**Address:**

**City:**

**State:**

**Zip:**

**Daytime phone:**

Mail this registration form and a check payable to the American Museum—Hayden Planetarium to: Course Registration, American Museum—Hayden Planetarium, 81st Street and Central Park West, New York, NY 10024. Please note in the event that a student withdraws from a course, a fee of $10 and charges for sessions attended will be made on all funds of tuition. No refunds can be made after the second session. Courses may be cancelled without prior notice, with full refund of tuition.

*Only Participating, Donor, and Contributing Members may take the Members discount.*

Share the Miracle

Give a Gift of Membership for the Holidays

There is a miracle in NYC. This miracle is worth your travelling to NYC. This miracle is a ‘natural history’ museum . . .

— e.e. cummings to a friend in Europe, 1935

As a Member, you already know what a ‘miracle’ the American Museum of Natural History is. You know the Museum is a treasure house filled with once-in-a-lifetime experiences.

Do you know a family, friend, or couple who are curious about our world? Who are interested in anthropology, birds, fossils or gems?

If you do, then a gift of Participating Membership in the American Museum of Natural History is an ideal present for the holiday season. It is a thoughtful and intelligent gift, one that will continue to delight throughout the year.

Here's what you'll be giving them:

**Retunda,** the Museum's newsletter ten times a year, with advance notice of all programs and events.

**Nature History Magazine,** 12 issues filled with stunning photography and fascinating articles about the natural world.

**Free admission** to the Museum at all times for a whole family, or two adults and four children.

**Invitations to special events,** private viewings, and social events celebrating the opening of new halls and major exhibitions.

**Free films and lectures** every month, given by anthropologists, naturalists, filmmakers, writers, and others.

**Free weekend programs** and workshops for the family.

**Discounts** at all Museum and Planetarium shops.

**Discounts** for Museum and Planetarium courses, evening lecture series, and film series.

**Special prices** on tickets to many events.

**Invitations** to Behind-the-Scenes tours of the Museum’s scientific departments and research labs, to meet curators and scientists.

**Visiting privileges to the Members’ Reception Lounge, Visitors privileges to Museum field stations in Florida and Arizona.**

Yes I would like to give a gift of Membership. Please send them their gift card and start their subscription to Natural History magazine and Retunda, right away.

- $30 Participating (a family/dual membership)
- $50 Donor Membership

*Name:*

*Address:*

*City:*

*State:*

*Zip:*

*Gift card to be sent to:*

Please make check payable to the American Museum of Natural History and mail to Membership Office, American Museum of Natural History, Central Park West at 79th Street, New York, NY 10024.
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<th>Day</th>
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<tr>
<td>Sun</td>
<td>Members' Orientation, Free</td>
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**American Museum of Natural History**

December
The Grand Canyon

Wednesday, January 21, 1981
7:30 p.m. Auditorium

The Grand Canyon is one of the most awesome and beautiful sights in the world. Almost 217 miles in length, an average of one mile in depth, and 18 miles at its widest point, it is the most intricate and complex system of canyons, gorges, and ravines in the world. The walls of the canyons, arranged in horizontal hues of buff, gray, green, brown, and red, present a view of geologic time that stretches across 2 billion years. On descending the canyon, one passes the limestone evidence of ancient seas, fossils entombed in green shale, and, at the bottom, steep walls formed when only the most primitive life existed on earth. There is no other place in the world that presents such an extensive record of earth events and processes.

Sidney Horenstein, of the Museum’s Department of Invertebrates and curator of the canyons exhibition now in Gallery 77, will present an illustrated talk on the natural history of this magnificent canyon. He will explain the mighty forces that shaped and sculpted the canyon and discuss the geologic tales that the canyon walls tell. He will examine the fossil record, discussing what it tells us about the evolution of life on earth, and will also look at the plants and animals that inhabit this magnificent terrain today.

The program is free to Members and $3.50 for non-members. Coffee and tea will be served outside the Auditorium before the program begins.

Program Listings

This Month and the Next, a brief listing of upcoming programs, has been added to the regular format of page two. This should enable Members to easily find important program dates. Special Members’ programs for the next five months can be found on page three.

Around the World with Dance

Matteo and his ethnic dance artists, who last year presented one of the most popular evening programs, return with a program of dances from around the world.

Page 3

Bringing Them Back

The first in a series of behind-the-scenes looks at the means by which some of the Museum exhibits became Museum exhibits.

Page 4

Lecture Series

The Department of Education is offering a wide variety of afternoon and evening lecture series, as well as workshops for young people.

Pages 5 and 6
Members' Highlights Tours

In February, the Membership Office will offer tours of the Hall of Mexico and Central America and of museum exhibition techniques. All tours are led by volunteers from the Museum’s outstanding Highlights tour program.

Mexico and Central America. This tour will introduce you to Aztec, Maya, Olmec, and other pre-Columbian cultures, and the beautiful stone, jade, gold, and ceramic works they produced.

The Art of Exhibition. This tour will take you to the Hall of African Mammals and the Hall of Amphibians and Reptiles to show you the various techniques and "tricks-of-the-trade" the Museum uses to create its strikingly realistic exhibits.

Please join one of these tours. Please use the adjacent coupon. The tours are open to Participating, Donor, and Elected Members of the Museum.

Please sign up for one tour only. (Please indicate a first and second choice of times.)

Mexico and Central America

Wednesday, January 28 at 6:30 p.m.
Sunday, February 8 at 11:00 a.m.
Wednesday, February 11 at 6:30 p.m.
Saturday, February 28 at 11:00 a.m.

The Art of Exhibition

Sunday, February 1 at 11:00 a.m.
Wednesday, February 4 at 6:30 p.m.
Wednesday, February 18 at 6:30 p.m.
Sunday, February 22 at 11:00 a.m.
Wednesday, February 25 at 5:30 p.m.

Number of people

Name

Address

City State Zip

Daytime phone

Please mail with a self-addressed, stamped envelope to:
Members' Tours, American Museum of Natural History, Central Park West at 79th Street, New York, NY 10024.

This Month and the Next

January Programs
Grand Canyon page 1
Mambo (coupons) page 3
Ondita and Tahuantinsuyo page 4
Sign-up for courses pages 5 and 6.
See calendar for others

February Dates to Save
Family Film Festival Feb 16
Tribe to Paul Robeson Feb 22
Visions at T-Minus Zero Feb 25

Members' Memo

Twelve times a year we mail Rotunda or Natural History magazine to each member. Because of the unpredictability of mail arrival, and the high cost of paper, printing, and mailing, we are trying to incorporate any additional mailings to our Members into Rotunda. For this reason all special invitations to hall openings and events, and invitations for Behind-the-Scenes Tours are now included here in the newsletter. To be informed, therefore, of all opportunities available to you as a Museum Member, it is important to read Rotunda monthly. We are aware that some Members would like to have some changes in the Rotunda format so information of this sort can be glanced at a glance. Therefore, beginning this issue, we are adding a new section listing all dates of significance to Members, and whether a coupon is necessary to sign up for a program. This can be found here on page two and six, and should help guide you in your reading. We will also include programs for the upcoming month, and try to carry at least one which are important and come before the 15th of the next month. We hope this will solve some of the problems caused by the First Office's late delivery.

A particular interest of mine is to bring more historical information to the pages of Rotunda, so for the next few issues I am adding a new section of the stories behind our collections.

During the first half of its 111-year history the Museum pursued a particularly active policy of collecting. Hundreds of expeditions were sent out to scour the world for the wonders of our planet. Over the years there have accumulated over 34 million artifacts and specimens, and countless fascinating stories which go with them. Many times the story of how and why the Museum got something is as interesting as the object itself. Although the best of our collections are on display, few of the stories of how they were found are recorded in the labels and available for visitors. Stories are buried in files, in letters or in memorials, or just in the memory of someone on the staff.

I've been combing through the archives lately for such information. Each month I will focus on an exhibit in one of the halls and tell the "behind-the-scenes" story of how it came to be. When possible, a photograph from the archives will accompany the information and illustrate some aspect of the story. This addition begins in this issue on page four.

T. Kent Stetson

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Kate Bennett-Mendez — Manager of Membership Services
Stanton G. Orser — Editor
Henry H. Schulson — Associate Editor
Angela Soccolato — Designer
Mark Abraham — Copy Editor
Alan P. Temes — Editorial Advisor

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Upcoming Members’ Programs

January through May

Wednesday Evening Members’ Series

The Grand Canyon
Wednesday, January 21 at 7:30 p.m. Auditorium
Speaker: Sidney Horenstein, Scientific Assistant in the Department of Invertebrates. Admission: Free to Members, $3.50 for non-members.
Mr. Horenstein, curator of the canyon’s exhibits on display in Gallery 77, will use slides and a short film to discuss the natural history of the Grand Canyon from the geological tales told by the canyon walls to the plants and animals inhabiting its magnificent terrain. (Article page 1)

Visions at T-Minus Zero
Wednesday, February 25 at 7:30 p.m. Auditorium
Speaker: John Teton. Admission: Free to Members, $3.50 for non-members. Mr. Teton will present a multimedia program exploring historical and contemporary views of the universe. The program will use many short film clips including an excerpt from the science fiction thriller When Worlds Collide and NASA’s magnificently photographed Spaceborne.

Shanwar Telis: Shipwrecked Jews of India
Wednesday, March 18 at 7:30 p.m. Auditorium
Speaker: Johanna Spector, Professor of Musicology, Jewish Theological Seminary. Admission: Free to Members, $3.50 for non-members.
In the 2nd century B.C., a boatload of Judean Jews was shipwrecked in the Indian Ocean off the west coast of India. They settled in the Koshan region where they became known as the “Shanwar Telis” (Sabbath-observing oil pressers). Dr. Spector will present her award-winning film about this community and the lives of their descendants in present-day Bombay.

Members’ Preview of the Arthur C. Ross Hall of Meteorites
Date and time to be announced.
Admission: Free and open only to Participating, Donor, and Elected Members of the Museum.
We are pleased to invite Members to preview the new home of our meteorite collection featuring Mudra, the largest meteorite fragment on display anywhere in the world.

Family Members’ Series

A World of Dancing with Matteo
Sunday, January 18, 1981 at 2:00 p.m. Auditorium
Admission: $1.00 for Members, $4.00 for non-members. Matteo and his ethnic dance artists will present a selection of lively dances from around the world. (Article page 3)

Visions at T-Minus Zero
Sunday, March 1 at 2:00 p.m. in the Auditorium.
Speaker: John Teton. Admission: Free to Members, $3.50 for non-members. Mr. Teton will present a multimedia program exploring historical and contemporary views of the universe. The program will use a variety of short film clips including an excerpt from the science fiction thriller When Worlds Collide and NASA’s magnificently photographed Spaceborne. This program has been especially tailored for a family audience. For the adult program see Wednesday, February 25.

Tale of Two Whales
Saturday, March 21 at 11:00 a.m. and 2:30 p.m. and Sunday, March 22 at 11:00 a.m. and 2:30 p.m. Education Hall.
Admission: Free for Members, $3.00 for non-members. Advance reservations required. (See February and March Rotundas for registration coupons)
Children seven years old and under will view the birds of a Beluga, touch a Narwhal tusk, sing along with humpback whales, and draw a whale of their own in the participatory play and program about whales and whale biology. Presented by Canada’s Touring Museum for Toddlers.

Birds of Prey
Sunday, April 12 at 11:00 a.m. (seven years old and under) and at 2:00 p.m. (all ages) in the Auditorium.
Speaker: Bill Robinson. Admission: Free to Members, $3.00 for non-members.
Bill Robinson will use slides, film and living owls, hawks, and eagles, to discuss the various birds of prey and the unique ways they have adapted to their environments.

Special Members’ Events

The Chimpanzee: Portrait of the Best Known Ape
Wednesday, May 13 at 7:30 p.m. Auditorium
Speaker: Jane Goodall. Admission: $4.50 for Members, $7.50 for non-members.
Internationally renowned scientist, Jane Goodall, will give a slide and film presentation on her pioneering studies of the wild chimpanzees in the Gombe Stream Reserve, Tanzania.

Special Members’ Reception for Shakespeare: The Globe and the World
A temporary exhibition coming in July, featuring a rare collection of Shakespeareana. Date to be announced.

Behind-the-Scenes Tours
Tours of scientific departments. Details to be announced.

All the programs on this page will be featured in future issues. Check Rotunda each month for more information.

United Nations of Dance

On Sunday, January 19 at 2:00 p.m., Matteo and his ethnic dance artists will bring the Auditorium to life with a program of dances from around the world. It will be a “united nations” of dance, as Matteo takes you to Ireland, Spain, Japan, India, the Middle East, and Latin America.

Children and adults alike will be delighted by a comical mask dance from Japan, an Irish sword dance, and a cane dance from Egypt. The program will include a lively set of classical dances from Spain and a unique castanet quartet. Matteo will conclude the program with a blend of East and West as he performs an Indian Mudra to one of India’s most popular folk tunes.

The New York Times has described Matteo as “one of the most versatile performers in the field of ethnic dance.” Last year he presented one of our most popular evening programs and we are happy to have him back for what promises to be a joyful afternoon of entertainment.

Tickets for the program are $1.00 for Members and $4.00 for non-members. Please send for tickets with the adjacent coupon.

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Tickets for the program are $1.00 for Members and $4.00 for non-members. Please send for tickets with the adjacent coupon.

Total Members’ Tickets at $1.00
Total non-members’ tickets at $4.00
Total payment enclosed:
$---------

Name:

Address:

City: State: Zip

Daytime phone:

Membership category:

Please make check payable to the American Museum of Natural History and mail with a self-addressed, stamped envelope to: A World of Dancing, Membership Office, American Museum of Natural History, Central Park West at 79th Street, New York, NY 10024
Two Musical Evenings

Two programs of American folk music Odetta and Tahuantinsuyo will be presented this month by the Department of Education in the Main Auditorium.

On Wednesday, January 14, at 7:00 p.m., Odetta will give a program of work songs, spirituals, blues, and ballads. Recognized as a legendary musical figure throughout the world and a major force in the American folk scene for over 25 years, she has been acclaimed by the New York Times as, "the most glorious voice in American Folk Music."

Two weeks later on Wednesday, January 28, at 7:00 p.m., Tahuantinsuyo will perform Music of the Arroz. Accompanied by the Arroz Dancers, a group of twelve South Americans, they will perform songs from Bolivia, Peru, Ecuador, Colombia, Chile, and Argentina. The haunting sounds and rhythms of the music and instruments will reflect the traditional and ancient traditions of pre-Hispanic South America which have evolved historically and combined with more recent Spanish influences.

Each evening is priced at $7.00. Participating, Donors, and Elect Members' tickets are available at $6.00. For information, please call 873-7507 on weekdays.

Bringing Back

Tyrannosaurus rex

Between 1891 and 1909, 52 Museum expeditions crisscrossed fossil-rich areas in North America, searching for specimens to go into the Museum collection and give insight to the past. For the first several of these expeditions, the Museum's goal was to form a collection of fossils that would exhibit the complete history and evolution of mammalian life in North America. But in 1897, the chance discovery of several dinosaur skeletons led to enlarging the research interests to include collecting a complete record of all past vertebrates.

It was an exciting time to do such fieldwork, for virtually every time fossil hunters went into the field, several bone specimens were found. And as added incentive, there was an ongoing race between the fossil hunters from various institutions: finding a fossil not yet in anyone's collection brought with it the rights both to re-search it, and more importantly, to name it. The Museum wanted to lead and name as many specimens as possible, and so display the bones in the exhibit halls. Each year the people of New York City loved to come to the Museum to see what new treasure the expeditions had found. 

Near Hell Creek, Montana, 130 miles from Rapid City, Barnum Brown, the 25-year-old curator of fossil reptiles, found the fossil remains of an enormous dinosaur with very large teeth. Elaborate but necessary preparations were immediately begun to bring the huge and brittle fossils back to the Museum. The sandstone covering the bones was removed by chiseling, and as the surface of the fossils became exposed, they were shellacked.

In order to remove the entire dinosaur, a pulley system was used to hoist whole blocks of sandstone containing the fossils from the ground. To prevent crumbling and disintegration during travel, the blocks were first covered with a layer of rice paper and shingles, then covered by a casing of burlap dipped in plaster to form an immobile jacket. The largest block removed weighed 4,150 pounds and contained the pelvis. A ded drawn by six horses was used to move it up the hill to a wagon, which was pulled by four more to complete the 130-mile journey to the railroad station.

Back at the Museum, the process was reversed, carefully removing the plaster jacket and rice paper. There the technicians started the delicate process of removing from the fossil the all the surrounding sandstone. It wasn't until 1905, three years later, that the bones were finally free to be resutured and named Tyrannosaurus rex (Tyrann King of the Lizards). It was a surprisingly complete fossil, missing only its tail and a single arm bone.

In 1908, Barnum Brown (who eventually dug up more dinosaurs than anyone in history) found another Tyrannosaurus rex in the same area that included a complete tail. Together the two fossil skeletons provided the almost complete set of bones needed to put the giant together. Where a bone was lacking, the missing part was cast. When the dinosaur was finally displayed, it stood twenty feet high, with its knee joint six feet above the ground. Its six-inch teeth were in a jaw that could open three feet wide, and each massive hind foot, weighing eight tons, spread over an area of seven square feet. Today Tyrannosaurus rex stands watch over the Hall of Late Dinosaurs. Its real head has been replaced by a lighter replica for the purpose of exhibition. The enormous fossil head can be viewed in a nearby exhibition case. Because fossils are so fragile, we are currently replacing some of the real fossils with polyester reproductions. This will insure that we will have the real fossils for research in the years to come.

—Kate Bennett-Mendel

Forever Young

Forever Young, a new film by the Academy Award-winning director Robin Lehman, will be shown at 7:30 p.m. at the Main Auditorium, January 7, 1981. Robin Lehman is an Associate in Photography with the Museum's Department of Education.

Aging is an experience we all share, and growing older can be something to which we look forward. To many, however, the likelihood of living beyond the age of retirement is met with apprehension. In his most recent documentary, director Robin Lehman goes directly to the true experts on aging—the generation over sixty-five—and dispels many of the fears and prejudices associated with growing old.

The subjects of the film range in age from sixty-six to one hundred, and include a skydiver, an artist, a farmer, the founder of the A.C.L.U., a retired beekeeper, and a barnstormer. They reply with wit and candor to many of the questions all of us will face and many of us avoid.

Also profiled are people who have experienced the hardships of illness and loss. One woman, paralyzed from the neck down, proudly describes the progress she has made as a painter. Another, confined to a wheelchair, still manages to shop for himself and live a remarkably independent life despite his handicap.

The responses captured by the film to the inevitability of aging and the hardships encountered, are a testament to the human spirit. They are profoundly, very simply, a true appreciation of life.


**Afternoon and Evening Lecture Series**

The Department of Education is planning a series of lectures, workshops, and fieldtrips to be held this spring not only in the museums but in some institutions as well. We invite you to explore, through the many offerings, subjects as varied as Andean birds, Hopi Indian Snake dance, and the future of Asian puppeteers. Members are encouraged to take advantage of the adjacent coupon and mail in their registration early to avoid disappointment.

**Exploring, Dining, and Entertaining Members receive a discount to most lecture series. Members may register for two series at the Members' discount and any additional series at the regular price.

For more information, call the Department of Education at 873-7507.

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**Studying Birds**

Four Monday evening lectures beginning February 23, 7:00-9:30 p.m. Fee: $20.00 (for Members).

Four ornithologists will present slides-illuminated lectures on various birds from around the world. Dr. François Vaurie, Curator in the Museum’s Ornithology Department, will discuss high Andean species of a harsh, high-altitude environment. Dr. George Decraene, Director of the Heineken Capsule Foundation, will detail efforts to save the threatened Madagascar Cranes. Dr. Thomas Lovejoy of the World Wildlife Fund will describe the Birds of Extinction. Dr. Wesley Layton, Lamont Curator of Birds, will introduce us to his study of Eastern and Western Meadowlarks.

**Symbol and Shadow: Puppeteers from the Asian Collections**

Five Tuesday-evening workshops, starting February 24, 7:00-8:30 p.m. Fee: $30.00 ($27.00 for Members).

The Department of Education is planning a series of workshops, each consisting of an illustrated talk followed by a workshop in which students will be introduced to puppeteering skills. These workshops are designed for those with little or no prior experience in puppeteering. Each workshop will have limited participation and each student will have access to a variety of puppets. The workshops are intended for participants who are interested in the craft, but not necessarily in the performance aspect. The workshops will be led by experts in the field and will cover a range of topics, from the history of puppeteering to the technical aspects of puppet construction. Participants will learn about the history and evolution of puppeteering, the materials and techniques used in puppet construction, and the variety of puppet forms used around the world. The workshops will provide hands-on experience with a range of puppet forms and will be taught by experienced puppeteers. Participants will have the opportunity to create their own puppets and will learn about the history and evolution of puppeteering, the materials and techniques used in puppet construction, and the variety of puppet forms used around the world.

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**Plant Life at the Edge of the Sea**

Five Tuesday evenings, 7:00-9:00 p.m. Fee: $27.00 (for Members). With a series of illustrated lectures and discussions, les Aynat Schiller, Lecturer in Botany, will present a survey of 70 species of interesting plants living in the neotropical region, ranging from the Caribbean and Central America to the Amazonian rain forest.
Outstanding Holiday Treats (River Road Rotunda, second floor.) Through January 6. Asian paper folders adorn the twelve-foot tree.

The Gardner D. Stout Hall of Asian Peoples. The Museum's newest permanent exhibition hall, containing over three thousand works of art and architecture.

Histories of the Past. The Geology of Three Southwest Countries (Gallery 27, third floor.) Photographs, rock samples, geologic maps, fossils, and other illustrative material on the geology of the Grand, Bryce, and Zion canyons.


Books on Asia. (Library Gallery, fourth floor.) A selection of rare books used to research the new Hall of Asian Peoples.

Programs and Tours

Natural Science Center. The Center introduces young people to the unique flora, wildlife, plants, and rocks of New York City. Some exhibits include live animals. The Center is open Tuesday through Friday, 2:00 to 4:30 p.m., and weekends from 1:00 to 4:30 p.m.

Discovery Room. Children are encouraged to touch and handle natural history specimens in imaginative "discovery boxes." Starting at 11:45 a.m., three tickets are distributed on a first-come, first-served basis at the first floor Information Desk. The room is open only on weekends from 12:00 to 4:30 p.m.

Museum Highlights Tours. For the new Museum visitor as well as the veteran Museum goer, the Museum Highlights Tours offer fascinating glimpses into the history and exhibits of the Museum's most popular halls. The tours leave regularly from the second floor Information Desk. If you wish to join a free tour, please ask at the Information desk for specific tour times.

Discovery Tours. The Museum offers exciting and unusual tours of exotic lands in company with Museum scientists, anthropologists, historians, and natural historians. For more information about tours and itineraries, write to Discovery Tours, the Museum or call 873-1440.

Planetarium Events

Star of Wonder. For more than forty years this show has been delighting New York holiday audiences. It takes Planetarium visitors back two thousand years for a look at the sky of Biblical times at the time of Jesus' birth, and speculates on the nature of the "star of wonder" that guided the three wise men.

The End of the World is the sky show at the Hayden Planetarium beginning January 7. Sometime in the future the world will end. How it will end, whether by the death of the sun, collision with an asteroid, the coming of a new ice-age, or nuclear Armageddon — is open to debate. The End of the World takes a dramatic look at the current theories.

Sky show series:

- Weekdays, Star of Wonder, 2:00 and 3:30 p.m.: The End of the World, 1:30 and 3:30 p.m.
- Weekends, hourly, 11:00 to 5:00 p.m.

Admission for Participating, Donor, and Elected Members is $2.00 for adults, $1.00 for children. For non-member prices, please call 873-8828 or 873-8829. Laserium and Cosmic Laser Concerts under the Stars. For information about time of performances and ticket prices, call 724-8700. Participating, Donor, and Elected Members receive a 25 percent discount on ticket prices.

For other Planetarium information, call 873-1300, ext. 389 between 9:00 a.m. and 5:00 p.m. weekdays.

Museum Information

Museum Hours. Monday, Tuesday, Thursday, Friday, Saturday, Sunday, and holidays: 10:00 a.m. to 4:45 p.m. Wednesday: 10:00 a.m. to 8:00 p.m.

Cafeteria Hours. Monday through Sunday; 11:00 a.m. to 4:15 p.m. Wednesday evening: 5:30 to 7:00 p.m.

Museum Parking Lot. Located on 81st Street. Open Monday through Thursday: 9:30 a.m. to 9:30 p.m. Friday through Sunday: 9:30 a.m. to 12:30 a.m. Rates are $3.75 for cars, $5.00 for buses. Parking is limited.

Coat Checking. The coat check rooms are located in the basement next to the cafetaria, and on the second floor. There is a $1.00 charge per coat.

Museum Research Stations. Members have visiting privileges at two research stations. If you are planning a visit, write ahead for details.

Archibald Biological Station, Route 2, Box 180, Lake Placid, Florida 33850.

Southwestern Research Station, Portal, Arizona, 85632.

Workshops for Young People

Another series of Workshops for Young People is being offered by the Department of Education this spring. Intended for children in grades 4 through 7, the workshops are designed to give first-hand experience in various areas of natural science and anthropology. Museum educators conduct the workshops, using the Museum's excellent resources, exhibits, and labs.

Please note that only Participating, Donor, and Elected Members may take the Members' discount for courses.

For more information, please call the Department of Education at 873-7507.

Exploring with the Microscope. Grades 4 through 7. Six Saturdays, February 28 through April 4, 10:15-11:45 a.m., or 12:15-1:45 p.m. Fee: $20.00 ($18.00 for Members). Open your eyes to a hidden world through one of the scientist's most practical tools, the compound microscope. Work consists of independent investigation for all levels of experience. A variety of cells and their structures are explored, from blood cells to plant cells to single-celled organisms. Taught by Ismael Calderon, Coordinator of the Junior High School Natural Science Project in the Museum's Department of Education.

Photographing the World. Beyond the Snapshot. Grades 5 through 7. Seven Saturdays, February 28 through April 2, 10:30-2:45 p.m. Fee: $20.00 ($18.00 for members). Taking pictures of people isn't easy—they can walk away, talk back, and do all sorts of things that trees, flowers and buildings just don't do. In this course, parents and children will learn together how to capture on film the uniqueness of these very special subjects. Students will also explore the basics of using a camera and printing techniques. Taught by William, a professional photographer trained in anthropology, who specializes in the use of photography in the social sciences.

The Arts of Asia. Grades 5 through 7. Six Sundays, March 1 through April 5, 10:30-11:45 a.m. Fee: $20.00 ($18.00 for Members). The richness and diversity of cultures which exist in Asia are on view in the Museum's exciting new Gardner D. Stout Hall of Asian Peoples. In this class, students will have an opportunity to try their own hands at many of the arts and crafts techniques—from printing to textiles, to ceramics—which are among the unique contributions of these ancient peoples. Taught by Adele P. Ueberherr, Fine Arts teacher, and by Phylis Mandel, Senior Instructor in the Museum's Department of Education.

Games People Play. Grades 5 through 7. Six Sundays, March 1 through April 5, 1:00-2:30 p.m. Fee: $20.00 ($18.00 for Members). A wide variety of toys and games are used by people throughout the world. Students will have a chance to learn about and play with games and toys from a wide range of cultures, and will also have a chance of making their own modern-day versions of many of them. Taught by Jane Thompson, World History teacher, and Phylis Mandel, Senior Instructor in the Museum's Department of Education.

I would like to register for the following Workshop(s):

Workshops:

Student's last name:

First:

Age:

Grade:

Daytime phone:

Address:

City:

State:

Zip:

Membership category and number:

I enclose a stamped, self-addressed envelope and a check for payable to the American Museum of Natural History. Make to Workshops for Young People, Department of Education, American Museum of Natural History, Central Park West at 79th Street, New York, NY 10024.
In October the Museum presented the fourth annual Margaret Mead Film Festival, and once again it proved itself a great occasion for public education. As a pioneer in the use of film for anthropological fieldwork, Margaret Mead was the inspiration for the Festival, and helped shape it during its first two years. Her colleagues think of her frequently and in many different contexts, but it is the Film Festival carrying her name that provides one of the strongest associations. It was at the second Festival, in September 1978, that Margaret Mead made her last public appearances. That these were in an educational program, bringing anthropology to the attention of a broad public audience is significant. In spite of debilitating illness and discomfort, she continued to carry the weight of the Festival on her shoulders for five days with that rare combination of intelligence, wit, and energy that the world had come to expect from her. She seemed to draw strength daily, as the Festival progressed, and although fatigued at its conclusion, her sense of satisfaction at the achievements she had brought about was apparent as she received the accolades of a cheering audience. Two months later she died.

A memorial service was held in the Museum’s Auditorium where twelve speakers offered memories of her, expressing some of the emotions felt by all. Mixed with the deep sorrow at her loss was a profound sense of respect for who she had been and an immense gratitude for all that she had done. Those who spoke, however, were only a fraction of those who had something to say.

At the Margaret Mead Film Festival this fall, a man offered me a piece of paper which he said was a gift. At that moment I was unaware of what was written on the paper, but I sensed that he was deeply moved and that the moment was important for him. When I opened and read it I understood. It was a poem about that last day at the 1978 Festival.

Two years earlier a woman had sent a poem written after attending the memorial service. Both give voice to the feelings and thoughts of many others.

— Malcolm Anth

MARGARET MEAD — ’78

As we stood with tears
streaming down
our cheeks...
We gave you the final standing ovation.
You gave us so much more.
We were saying "Thank you."
Never thinking it was "Good-bye."
Majestic woman of stature
even now, the tears
fall on this page.
Please, you tough-minded, cantankerous,
Straight-thinking, analytical genius...
Forgive us our emotions.
Somehow, your message echoes still, and it says,
"Get to the point!"
So I will — "Margaret, we love you!"

Donald T. Balloss
© 1980

MARGARET
(In memory of Dr. Margaret Mead)

Margaret, I went to your memorial
and I missed your being there.
I’m a student of your mind,
a follower of your philosophy
and I’ll go on with teachings
you set forth for all the world to learn;
But Margaret, your will will be missed.
Whether in lecture or classroom
on stage or street, between pages
of books or frames of film
you were the intimate professor
close enough to collide the curious and damn the prudish
of my mind and a multitude of others;
A Mother to so many meta-forces.
Margaret, (you see, I feel close enough to call you that)
you didn’t age the way the rest of us do —
you managed to grow older for the sake of youth;
every generation was new again in you.
Your latest cane still taps toward tomorrow
through the hallways of research
from Bali to Bateson; New York and new minds.
Womankind is grateful to you,
your example is a mighty milestone for that mystique
and men revere the argument you gave them.

Museum and you today voiced this total respect
and I attended with notebook, heart and mind
as if to hear and see you there. But now you’re of the audience —
You’re the thunder in our applause, Margaret.

Lenora Lowe
© 1979
Whale Tales
Canada's Touring Museum for Children presents a participatory play and program about whales.
Page 3

Kachina Culture
Hopi Kachina: Spirit of Life, a nationally touring exhibition, opens at the Museum February 9. Explore Hopi culture from carved kachina figures to the rare Awatovi wall murals.
Page 2

Travels with Ian
Ian Tattersall, Assistant Curator in the Department of Anthropology, discusses the traumas of getting to the field in his Letter from the Field.
Page 5

Robeson, Rhythm, and Roots
February is Black History Month, and the Department of Education has organized a series of special weekend programs.
Page 3

Holiday Films
A series of five, short, family films on the world of nature will be shown twice on Monday, February 23, Washington's Birthday.
Page 4

Visions at T-Minus Zero
Wednesday, February 25, at 7:30 p.m.
Sunday, March 1, at 2:00 p.m. (Family Program)
Auditorium

From the time people first observed the heavens, the idea of space and the wonders of infinity have stirred within them. Answers were sought where questions were barely understood, generating legends, myths, and philosophical musings. In our day and age much has been done to explore the possibilities of space through the medium of film.
This month, for the Wednesday Evening Members' Program, award-winning filmmaker John Teton will present Visions at T-Minus Zero, his nationally acclaimed program of films with slide-commentary. It will also be presented Sunday, March 1, in a specially tailored version for the Family Members' Program.
The program, integrating science, philosophy, history, and the arts, is a reflection of the vast spectrum of people's interaction with the universe. It consists of ten short films and film segments from as long ago as 1902 and as recently as 1978. Teton integrates them with perceptive commentary and slides which place the films into a cultural and artistic context. It is a history of images of space conceived in awe, humor, and horror — in scientific inquiry and spiritual inspiration. The conceptions of the universe outside the earth's immediate environs vary throughout the program, from the comic book absurdity of a 1901 film, to NASA's Spacehome, in which every foot of film has been compiled from NASA's files, recreating for the audience a real-life trip to the moon. Also included is Teton's own film, B'not Mush (Hebrew — "In the beginning"), which has won six film awards. The programs are free to all categories of Membership (your membership card is your ticket of admission). Non-members may purchase tickets for $3.50 at the Auditorium door. Participating, Donor, and Elected Members may park free, up to the capacity of the Museum lot for the Wednesday Evening Program only. Coffee and tea will be served outside the Auditorium before the evening program begins.
A nationally touring exhibition organized by the California Academy of Sciences, will come to the Museum this month. Hopi Kachina: Spirit of Life, opening February 9 in Gallery 3, will give Museum visitors an opportunity to travel to the windswept mesas of northern Arizona. Here, for more than 900 years, the Hopi have lived in pueblo villages and followed the centuries-old practice of cultivating corn, beans, and squash. America's oldest continuous culture, their longevity has often been attributed to the strong unfailing thread of their religion which dictates appropriate action in all areas of life.

One of the major aspects of the Hopi religion, and the focus of the exhibition, are the kachinas, friendly spirit messengers who carry Hopi prayers to the deities, insure rain, good weather, and bountiful harvests. Each year, between December and July, the kachinas, who live on the San Francisco peaks north of Flagstaff, come to the mesa to give guidance and help to the Hopi during the critical growing season. Specially initiated tribe members impersonate the kachinas, dressing in elaborate costumes and assuming the prestige and power of the supernatural. During one ceremony, dancing kachinas give out nuts, small, carved wooden figures commonly called kachina dolls, to the children to teach them about the Hopi way of life.

In the exhibition, the visual focal point will be two large-scale models of mesa villages with more than two hundred carved kachina figures depicting two important dances: the February Bear Dance, where hundreds of ribbons dressed as kachinas move through the village plaza, expressing the hope for successful germination of their seeds; and the July House Dance, to thank the kachinas for their help before they return to their homes in the San Francisco mountains.

Sounds of preparations for a kachina ceremony will emanate from the hatchway of a full-sized kiva, the underground ceremonial chamber used by the Kachina cult for practice and preparatory rituals. These kiva will also be two rare kiva wall murals on display from the archeological site of Awatovi. These are the earliest known representations of the kachina, made with colors from iron oxides, charcoal and clays, and painted on whitewashed plaster.

In conjunction with the exhibit, a lecture series has been added to the Education Department's spring courses. The Hopi will present an in-depth look at the culture, from the Awatovi Kiva Murals to the Hopi Snake Dances. For more information call 873-7507.

Bully For Us!

The Museum and the Roosevelt Hotel are jointly arranging a Henriksen Celebration honoring Teddy Roosevelt, the American Museum of Natural History, and the newly renovated Roosevelt Hotel. A party for Museum Members and their guests is planned at the Hotel (located on Madison Avenue at 45th Street), on April 14 from 5:30 p.m. until 8:00 p.m. The evening program, which will highlight Museum collections and activities, will include cocktails, hors d'oeuvres, music, entertainment, Theodore Roosevelt memorabilia, and much much more. Members will be receiving invitations to the celebration this month. The cost of the party will be underwritten by the Hotel, with all proceeds going to the Museum. Tickets will cost $25.00 per person, $40.00 per couple, and are tax deductible. Call (212) 873-1300, ext. 546, 429 for more information.

March at the Museum

Sunday, March 1
Visions at T-Minus Zero, (See article page 11)

Saturday, March 7
Hopi Films, 1:00 to 4:00 p.m., Auditorium, Free
Identification Day, 1:30 to 4:30 p.m., Education Hall, Free
Shamoo Tales, Shiprocked Jesus of India Film and lecture with Dr. Johanna Spector, 7:30 p.m., Auditorium, Free to members, $3.50 for non-members

Wednesday, March 18
Lemuel Curtis Films, 1:00 to 4:00 p.m., Auditorium, Free

Saturday, March 21
A Tale from Two Whales, (See article page 23)

Sunday, March 22
How to Prove a Mystical Experience is Real, Lecture with Dr. Wendy Doniger O'Flaherty, 2:00 p.m., Auditorium, Free
American Litoral Society Symposium, See March Rotunda for ticket information

Saturday, March 28

Rotunda

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A Tale from Two Whales
(for children ages three to seven)
Saturday, March 21 and Sunday, March 22
11:00 a.m. and 2:30 p.m. Education Hall
Free for Members $2.00 for non-members

Canada's Touring Museum for Children is coming to New York to present a participatory play and program about whales and whale biology. The program, designed for children ages three to seven, begins with a play about the adventures of Baby Humpback. In the play, children will sing along with Baby Humpback, join in her search for kill (the food of baleen whales), and help her as she escapes from the clutches of that notorious whale hunter (and Peake's), Colin Cuthroat. Slides, a film of a beluga whale, and sound recordings of humpback whales are all used to help tell the story.

At the end of the play, children will be invited to touch a whale skull and a narwhal tusk, examine kill under a microscope, compare a human rib to a whale rib, and draw, color and cut out a whale of their own.

Please use the attached coupon to register for this innovative program. Early registration is advised.

Black History Month

In celebration of Black History Month, the Department of Education's African American Program has put together a series of weekend events including drama, workshops, slide lectures, and concerts. By highlighting the diversity and cultural richness of peoples of African descent, it will reflect some of the worldwide contributions Black people have made.

Sophie Laste will present a special tribute to Paul Robeson on Sunday, February 22, at 2:30 p.m. in the Auditorium. Taped portions of Robeson's speeches and songs will be interspersed with live poetry readings, a jazz band performing original pieces in tribute to him, and a Gospel Choir singing his favorite spirituals.

Much of Black history has been passed down through songs. To commemorate and insure the continuation of the oral tradition in the younger generation, a concert of African-American music will be presented to children, Sunday, February 15, at 3:00 p.m. in the Education Hall. Made up of field hollers, work songs, spirituals, rhythm and blues, it will be performed by Don Oliver and Steven Freeman of the Goodtime Duo. Mr. Oliver has appeared on and off Broadway, with Voice Inc. and performs regularly in New York City. (A Young Audiences production.)

Other events will include lecture demonstrations on African-American cuisine, African toys and games, music and folk traditions of East Africa, and patterns, symbols and styles in African Art, to name a few. In addition, a one-man show entitled Unsung Heroes with Lou Myers will dramatize several prominent figures in African-American history. Films on the heritage of Black People will be shown throughout each weekend. Check the calendar in this issue for full program listings.

All programs for Black History Month are presented by the Department of Education and are free to Museum visitors.
Ocean Chalets

Selections from a large collection of shells recently acquired by the Museum will be the Arthur Ross Exhibit of the Month, in the second floor Roosevelt Rotunda. Donated by Thomas and Virginia Manyan, the collection consists of approximately 2,200 specimens. More than 400 species are represented, some of which are new to the Museum. Among the prominent holdings are the foraminifera, which have been collected by specialists to be one of the finest private collections in the world, the value is found both in its beauty and in its inherent scientific value. It is rich particularly in growth series, rare color forms, and unique morphological fossils.

The collection is so large that only a portion of it will be on display. It will eventually be housed in the reference department, considerably enhancing the Museum's own collection of this family of marine gastropods. It shows the diversity to which an amateur can, over a period of time, collect and create an extensive scientific resource.

Family Film Festival

On Monday, February 16, Washington's Birthday, at 1 and 3 p.m., a series of live short family films will be shown in the Main Auditorium. Presented by the Media Center for Children, the films offer an enjoyable and diverse look at the natural world around us. The 1985 First Day, by Derek Matson. The portrait of a four-month-old polar bear's ventures into the public eye in the Oregon Zoo. See, by Robin Lehman. A close-up examination of wonderful and varied underwater creatures.

Bringing Back The Gorilla Group

The story of the gorilla group exhibits in the Akeley Hall of African Mammals is like the rest of the exhibits in the hall, the story of the will and dedication of Carl Akeley, the Museum's visionary taxidermist. In 1901, while hunting in Africa for the Museum, Akeley was badly mauled by an elephant. During his long recovery he began to dream of an African Hall in New York City which would permanently record the already vanishing wildlife and environment of Africa. He wanted to mount the animals in like-like poses and to accurately represent their habitats down to the most minute detail.

In 1921, still dreaming but without the money or the go-ahead for the hall, Akeley organized his fourth expedition to Africa. His goal was to shoot and bring back gorillas to be mounted at the Museum. Not long after seeing his first gorilla tracks on Mt. Mende, Zaire (then the Belgian Congo), Akeley saw and shot at a gorilla behind a bush. The gorilla fell and came careening down the mountain towards a chasm to his right. He stood helplessly watching, afraid he had killed one for nothing. But, as luck would have it, a lone tree at the edge of the cliff stopped the animal's fall. It was to that tree that Akeley tied both the gorilla and himself to measure it for future taxidermy and to skin the beast. With only his jackknife and a line knotted as a porter, he skinned and roughly skeletonized the body. At camp the next day, he prepared and salted the skin and collected all of the bones so he could be able to make a perfect model of the animal back in New York. In addition, he photographed the hands, feet, and head, and made a death mask of the animal's face.

By the end of the safari, Akeley had shot four gorillas and filmed many others so that he could realistically immortalize them with his taxidermy. At the spot where Herbert Bradley, an expedition-mate, shot the largest male, Akeley saw "the most beautiful view in all of Africa." Then there and there, he decided the search for an appropriate background and setting had ended. It would mean arranging another safari to Africa to bring a painter to the spot to capture its beauty, but it would be worth it.

Back at the Museum he began the task of mounting the gorilla as he had seen them. Armed with films, stereoscopic photographs, complete sets of measurements, skeletons, the skins, casts of hands, feet, and faces, he set out to teach the world about gorillas.

The Akeley method, which revolutionized taxidermy, was to create a manikin over which the tanned skin was stretched, rather than to stuff the animal. To create the manikin, a clay sculpture was first made over the gorilla skeleton. When the model was in the desired position, and accurate according to the field studies, Akeley made a plaster mold of the clay sculpture. The actual manikin was then made from this. A thin coat of hot glue was applied to the inside of the mold, then muslin, and more glue to work the muslin into every detail of the mold. Next the surface was covered with paper-mâché and a layer of wire cloth. A second layer was added to the manikin by repeating the process. When hardened, the resulting manikin was both light and durable. The tanned gorilla skin was then stretched over the manikin, with flour paste and glue to hold it in position.

Akeley's attention to detail in taxidermy is evidenced by the painstaking way he finished off the first killed gorilla. Since he had skinned it under particularly poor conditions, some of the animal's hair had slipped away. He had saved it, and each individual hair was reawned onto the gorilla's chest.

Each gorilla was mounted in this fashion and soon after put on display. It is a tribute to Akeley's skill as a taxidermist that each looked so individual. It wasn't until 1926, however, that Akeley got back to Africa with funding for the hall and artists to record the gorilla habitat.

The creation of the habitat, and the completion of the gorilla exhibit, will be the subject of this column in the next issue.

Kate Bennett-Mendez

Three of the completed gorillas. The life-like quality and individuality of each is a credit to Akeley's skill in taxidermy.
Letter from the Field

Stalking the Wild Comoros

Ian Tattersall, Associate Curator in the Department of An- thropology, is a physical anthropologist studying primates. He claims that not once in the last ten years has he gone into the field and accomplished anything. His research on primates, particularly lemurs, has taken him into areas of the world plagued with political upheaval. The sub- sequent lack of research funding requires him to maintain a certain flexibility about his objectives.

The path of fieldwork, in my experience, is seldom if ever smooth. Take, for example, one of my less hair-raising summers: 1977.

Greatly Richard. Grant funds have been received to allow me and my colleague, Bob Sussman of Washington Uni- versity, to study the ecology and social organization of lemurs in the Comoro Islands, where I will be based.

May 21. Reunion. Bob and Linda needed their passports to fly to Reunion. I had to fly back to bring them.

May 27. Mauritius. With visas granted, the time has come to study monkeys. The authorities couldn't be more accommodating. We are allowed to keep monkeys mostly on private reserves, set aside for deer hunting. When does the reserve close? We have been told two days. At day's end, hardly. The obstinacy is 25% worth noting: there is a no在里面 hunting area where we might expect the monkeys to be.

Through new friends, and friends of friends, we've been introduced to some of the management of Medicine Estates, a large sugar company with extensive land holdings. Yes, there is an area they're not shooting this season; and yes, we can study the monkeys there. It is a marvel- lous and splendidly civilized island. We will talk about fieldwork, and Bob, in particular, has taken a shine to the monkeys.

June 1. Reunion. The study has gone remarkably well, but at heart I remain an observer rather than a participant. After seeing again my lemurs, the biases I'd studied two years before have started to return. Apparently, I am told, it may be possible to fly to Moroni from Dent-en-Salama, on the Tanzanian coast, and, after much hassle, I persuaded a travel agent to write me a ticket. I arrived here in the late eve- ning, only to find that all the hotels were full of Lutheran missionaries, convening for a mis- sionaries' convention. I was eventually able to locate a dis- trict of a beach hotel, miles of town, and finally today the local Air Comoros agent admit- ted me to the existence of a flight and confirmed it on me.

June 30. Moroni, yesterday, with take-off time well past, there was still no sign of the aircraft. When we arrived the DC 4 taxi ed up the ramp and stopped. Nobody got out, taxi ed away, and several waiting passengers were invited to board, myself in- cluded. I thought, however, that the aircraft was al- ready packed. Even the able-bodied men were seated on chairs and metal drums. Somehow, all squeezed in, the doors were closed, and we taxied out to the far end of a super-long, narrow runway. The plane ran up the engines, raised the braces, and we rumbled slowly forward. The view of the runway ambled by the win- dow, and what seemed like an eternity later, we were still on the ground. Finally, just before my lower lip was entirely bitten through, yards short of the runway's end, we staggered into the air. A friend of the pilot later told me that we took off at 30% over maximum gross weight. Finally the silhouette of Benin, the volcanic islet which dominates the island of Grande Comoros, loomed out of the darkness. Moroni at last.

I began to wonder now if this had been such a good idea after all; Mauritius had been ideal, but the Comoros were in political turmoil, and the reports I'd heard weren't encouraging.

What's more, I had no visa (al- though Air Comoros have no external represen- tative). My hope was to get there by a super-long flight to the Mayotte, one island that had stayed French, but any attempt at a changeover at the airport, and I had to try to get back. The DC 4 winged its way toward Moroni, and I got to see the remains of the Revolutionary Youth.

As I walked with some trepid- ation toward the Immigration Bureau, chained pieces of paper wobbled in the breeze around me. It turned out that the government had literally burnt all paper records of all colonial heritage and gone into a state of near-calamity. All- most all government offices and services were closed, and everywhere the whitewashed walls were daubed with the red slogans of the Revolutionary Youth. Would I see my passport again? Yes, as it hap- pened a worsening of the beat going on out with a visa. I was less and less inclined to want to take advantage of it. The politi- cal situation is uneventful, to say the least, there are no lemurs here for me to watch, and the next plane to Moroni isn't for a week. In a couple of days there will be a flight to Moroni, and the next island in the chain: it seems like a good idea to go there and watch my lemurs. I can catch the plane to Moroni there next week, as it stops on its way.

July 7. Moro. Nothing is functioning here except a band of teenage boys known as the Revolutionary Youth. Where could I stand? The revolutionary youth suggested the hotel. There had never been one here before, but on investigating, it turned out to be a place I knew well: the former residence of the late Director of the island's one large agricultural company. When last I had seen it, two years ago, it had been freshly painted, beautifully furnished, with electricity and hot water. No longer, it looked like a man abandoned for twenty years: no electricity, no water at any tempera- ture, almost no furniture, but junk and litter aplenty. I could sleep on a mattress in a corner of what had been the master bedroom, surrounded by rubbish and rats. Still, there was a roof, and it wouldn't be for long.

I went to see the Air Com- oros office and reclaim my booking for Mayotte. No problem, I was told. But when do I see your exit visa? What exit visa? Nobody had mentioned any exit visa. I spent an hour on the phone. I got my exit visa. I was coming to the Revolutionary Youth.

My first attempts to get an exit visa failed. It seemed I was completely at the mercy of a bunch of power-crazed sixteen-year-olds. I could take some solace from my lemurs, but being active only at night, they left me with nothing to do all day but wonder whether I'd get off this bringhyped speck in the middle of the ocean. Even now, at the airstrip in the early morning, with my baggage and a precious piece of paper in my hand, I'm not well. Fortunately there is no plane on the day and we'll leave.

July 8. Mayotte. Mayotte at last. On the plane there was a lot of agented and neglected corners, there is har- bor here a detachment of the Foreign Legion, a lycée, and a handful of French officials. All- most everything is in short sup- ply, so it's no surprise to learn that there's no gasoline. The pickups that serve for public transport can't run, and the car I'd sworn to last so long is useless. What's more, I discover a few miles from my study site, on the other side of a mountain ridge, there's no lemon, free for cooking either. But come to that, there's not much food, the Legion feeds it- self, and the officials have their lines of supply set up with France (via Reunion, of course). The important thing is that I finally have the freedom to do my work. I have some where to live, and a couple of months of mannique, bedouin, and rice when I can get it, won't kill me.

I will record the behavior of the lemurs from 6 a.m. to 6 p.m., and need some extra time in the morning to find them. Add two hours to walk to the site, and two hours to get back home, and it will make for very long days. Still, the worst of it will only be until the promised gasoline arrives.


The study was completed, at least for that season. It found, very basically, that the wild residents of the Comoros were the only known primates not to have regular ac- cess to the ocean. All other lemurs keep regular hours either during the day or at night, with the pattern being uniform through- out a species. Groups of these lemurs would keep random hours, both at day and at night, never settling on a regular pat- tern.

There never was any gasoline, so I must have walked a thousand miles. But the fieldwork got done, which is rare, these days, a foreigner doing fieldwork. On the whole, it wasn't such a bad trip. Looking back on other field experiences, it might have gone less smoothly.

I eventually flew off the island with a man who was single-handedly supplying the island from Kenya in a single- engine Cessna. As his plane was empty, I agreed to fly me out on his return flight. Although he may be less willing to take on passengers when his plane is fully loaded, I'll be someone to keep in mind if I ever do try to return. Assuming, of course, that I can find him.

Ian Tattersall
The Membership Tour program is designed to give members an in-depth look at some of our most fascinating collections and exhibition halls. All tours are led by volunteer guides from the Museum Highights Tour program. In March and April, the following tours will be offered:

**Dinosaurs:** Why did dinosaurs become extinct? Are they warm or cold blooded? Did Dinosaurs lose its head? Learn some new thoughts about these prehistoric creatures as you venture back in time in the Halls of Early and Late Dinosaurs.

**Ocean Life:** This tour will focus upon whales, dolphins, polar bears, mantarays, walruses, and seals, and discuss the remarkable ways they have adapted to their aquatic environment.

**Minerals and Gems:** A celestial gemstone, the world's largest topaz crystal, the Star of India, and minerals useful in daily life will all be included in this tour of one of the Museum's most popular halls.

**Northwest Coast Indians:** This tour will look at the beautiful objects of the Northwest Coast ranging from brightly colored masks to magnificent totem poles as well as the animals and rain forests that are such an integral part of Northwest Coast cultures.

These tours are open only to members. To join, please fill out the adjacent coupon.

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**Spring Lecture Series**

The Department of Education’s spring program of Afternoon and Evening Lecture Series is scheduled to begin the last week in February. Many subjects will be offered, ranging from Avian Birds to Hopi Indian Culture to performances by Asian puppeteers, and Members are entitled to a discount on most series tickets. All of the listings were in the January issue of Aeon and some are related here. Please call 873-7507 for more information and ticket availability.

**Studying Birds:** Four ornithologists will give slide-illustrated lectures on Eastern and Western Meadowlarks, High Aridian Birds, Birds of the Amazon, and the World’s Endangered Cranes.

**Symbol and Shadow:** Puppets from the Asian Collections, Bottle Puppets, Dance and Drama of the Orient will introduce five evenings of guest speakers on Asian puppets, and performances by Asian puppeteers.

**Anthropology through Film:** Dr. Malcolm Arth, Curator and Chairman of the Department of Education, will introduce and discuss six evenings of world culture as captured on film.

The Hopi, Seymour Koeng, Adjunct Professor of Art History and Archaeology at Columbia University, and Harriet Koeng, anthropologist and guest lecturer on the Hopi Snake dances, will give a series of slide-illustrated presentations to augment the special exhibition, Hopi Kachinas, Spirit of Life.

For more information about the Afternoon and Evening Lecture Series, or for course brochures with a pre-registration form, please call the Department of Education at 873-7507.

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**Sacred Visions**

The Society for the Study of Myth and Tradition, publishers of Parabole magazine, will present a two part lecture on Wednesday, February 11 at 7:00 p.m. in the Auditorium, Sacred Geography. An inner vision of Ecology will explore the sacred values of Native American people, and the relationships of these higher values — gods, spirits, and other supernatural phenomena — to lower values of man and the earth. Particular focus will be placed on the significance of geographic areas.

Thomas Buckley, from the anthropology department at the University of Massachusetts, Boston, will present a slide-illustrated lecture on the Yuank Indians of northwestern California. He will discuss the symbolic means by which they have traditionally experienced and expressed, in spiritual terms, the unity of humans, their immediate environment, and the cosmos. Arthur D. Amiotte, artist, teacher, and a member of the Oglaa Sioux Teton Tribe, will talk of his experiences with the Sioux and other Native Americans of the plains, with respect to traditions in sacred geography. The program, part of the Society’s Earth-Spirit series, is free to all Museum visitors.
Identification Day

Saturday, March 7 is Identification Day. Experts from the Museum's scientific departments will be in the Education Hall from 1:30 p.m. to 4:30 p.m. to identify any objects that you have collected from the worlds of anthropology and natural history. So if you have a shell, fossil, rock, feather, insect, bone, or arrowhead that you want to find out about, bring it to Identification Day.

Tales Twigs Tell

While no one has ever brought a twig to be identified at Identification Day, twig identification is a fun activity that you can do in a nearby park or perhaps even in your own back yard. Use the clues and pictures below to help you. Good luck.

This twig identification activity was developed by Robert J. Finkelstein and is taken from his recent book, prepared with the Central Park Task Force. The Central Park Workbook: Activities for an Urban Park. Dr. Finkelstein is presently Curriculum Coordinator for the Academy of Environmental Sciences, a new public junior high school.

New Exhibitions

Hopi Kachina: Spirit of Life. (Gallery 5, third floor.) A nationally touring exhibition about Hopi culture, particularly the role of the kachina, friendly spirit messengers to the deities. Opens February 9. See article page 2.

Gloves of the Sea. (Roosevelt Rotunda, second floor.) A small exhibit of selections from the Muyan Collection of cone shells, recently donated to the Museum. See article page 4.

The Gardner D. Stout Hall of Asian Peoples. The Museum's newest permanent exhibition hall, containing over three thousand works of art and artifacts.

Profiles of the Past: The Geology of Three Southwest Canyons. (Gallery 77, first floor.) Photographs, rock samples, geologic maps, fossils, and other illustrative material on the geology of the Grand, Bryce, and Zion canyons.

Programs and Tours

People Center. Black History Month. Weekends in February from 1:00-3:45 p.m. Special programs celebrating Black History. Refer to full page calendar for specific events. See article page 3.

Natural Science Center. The Center introduces young people to the varied wildlife, plants, and rocks of New York City. Some exhibits include live animals. The Center is open Tuesday through Friday, 2:00 to 4:30 p.m., and weekends from 1:00 to 4:30 p.m.

Discovery Room. Children are delighted to touch and handle natural history specimens in imaginative “discovery boxes.” Starting at 11:45 a.m., free tickets are distributed on a first-come, first-served basis at the first floor Information Desk. The room is open only on weekends from 12:00 to 4:30 p.m.

Museum Highlights Tours. For the new Museum visitor as well as the veteran Museum goer, the Museum Highlights Tour offers fascinating glimpses into the history and exhibits of the Museum's most popular halls. The tours leave regularly from the second floor Information Desk. If you wish to join a free tour, please ask at the information desk for specific tour times.

Discovery Tours. The Museum offers exciting and unusual tours of exotic lands in company with Museum scientists, archaeologists, anthropologists, historians, and natural historians. For more information about tours and itineraries, write to Discovery Tours at the Museum or call 875-1940.

Museum Information

Museum Hours. Monday, Tuesday, Thursday, Friday, Saturday, Sunday, and holidays, 10:00 a.m. to 4:45 p.m. Wednesday, 10:00 a.m. to 8:00 p.m.

Cafeteria Hours. Monday through Sunday, 11:00 a.m. to 4:15 p.m. Wednesday evening, 5:30 to 7:00 p.m.

Museum Parking Lot. Located on 81st Street. Open Monday through Thursday, 9:30 a.m. to 9:30 p.m. Friday through Sunday, 9:30 a.m. to 12:30 a.m. Rates are $3.75 for cars, $5.00 for buses. Parking is limited.

Coat Checking. The coat check rooms are located in the basement next to the cafeteria, and on the second floor of the Roosevelt Rotunda. There is a charge of 40¢ per coat.

Museum Research Stations. Museum Members have visiting privileges at two research stations. If you are planning a visit, write ahead for details.

Archbold Biological Station. Route 2, Box 186, Lake Placid, Florida. 33852

Southeastern Research Station, Portal, Arizona. 85632

Pitons victorious, the Queen Victoria and Venus Rifle Bird, as illustrated by Joseph Wolf. An exhibit of Wolf's illustrations, both of the glorious Birds of Paradise and of many wild cats, will be on display in the Library-Gallery beginning January 30, 1981.

Planetarium Events

The End of the World is the sky show at the Hayden Planetarium beginning January 7. Sometime in the future the world will end. How it will end—whether by the death of the sun, collision with an asteroid, the coming of a new ice-age, or nuclear Armageddon—is open to debate. The End of the World takes a dramatic look at the current theories. Sky show times: Weekdays, 1:30 and 3:30 p.m. Weekends: hourly, 1:00 through 5:00 p.m.

Admission for Participating, Donor, and Elected Members is $2.00 for adults, $1.00 for children. For non-member prices, please call 875-8829 or 873-8829.

Laserium and Cosmic Laser Concerts Under the Stars. For information about time of performances and ticket prices, call 724-8700. Participating, Donor, and Elected Members receive a 25 percent discount on ticket prices.

For other Planetarium information, call 873-1300, ext. 389 between 9:00 a.m. and 5:00 p.m. weekdays.

Stars of the Season

Wednesday, 7:30 p.m. Explore the solar system and learn about the very latest discoveries at this free sky show.

The Art of Aldo Sessa: Surrealist paintings on display on the first floor of the Planetarium.
Hopi Celebration

The Hopi, America's oldest continuous culture, have survived in the arid climate of the Arizona mesas for more than 900 years. Their rich religious and symbolic heritage, both traditional and contemporary, is the focus of two exhibitions on display this spring. In addition, a special film series on the Hopi will be shown the weekend of March 7 and 8.

Hopi Kachinas:
Spirit of Life
Gallery 3
Through May 8

More than two hundred carved kachina figures, a full-sized kiva hatchway with sounds of a preparatory ritual emanating from below, slide presentations, and two rare kiva wall murals make up the nationally touring exhibition, organized by the California Academy of Sciences.

Kachinas are friendly spirit messengers who carry Hopi prayers to the deities, insuring rain, good weather, and bountiful harvest. The focus of the exhibition is two scale-model village plazas, filled with carved kachina figures depicting the Powsam and the Nimam ceremonials.

The first known as the February Bean Dance, celebrates the hope for successful crop germination. The second, a solemn one, gives thanks to the kachinas for their help. A concluding audio-visual presentation offers candid interviews on the enduring aspects of the culture, with a few of the 6,000 Hopi presently living on the mesas.

Bird, Cloud, Snake:
Hopi Symbols
Akeley Gallery
March 10 through May 15

Birds, clouds, and snakes are Hopi symbols of agricultural fertility, a great concern of these desert-dwelling people. Traditionally, these symbols have been incorporated into the decorative patterns on day-to-day objects, both as a form of visual prayer, and as a reminder of the ongoing struggle with Nature.

The exhibit explores these symbols in both traditional and contemporary uses. Pottery, textiles, woodcarvings, an altar, and other traditional objects from the Museum's extensive Hopi collection will be displayed.

Along side will be the paintings of several contemporary Hopi artists who have combined their symbolic heritage with the influence of the modern artistic movements. The work of Hori Antes, a German whose time spent with the Hopi led him to use this same symbolic heritage, will also be included.

The exhibit supplements the Hopi Kachina: Spirit of Life exhibition.

Hopi Films:
Sat. and Sun., March 7 and 8
Auditorium
2:00 to 4:00 p.m.

On Saturday, March 7, there will be three short films, The Snake Dance at Walpi (1901), one of the first films ever made; Hopi Indians of the Southwest (1925), an anthropological documentary; and Hopi Footrace, shot by commercial filmmakers in the 1920's. In addition, an hour-long documentary entitled Hopi (1981) will be shown, depicting the strengths of the Hopi traditions today, despite the pressures to modernize. These films will be introduced by Elizabeth Weatherford, Director of Film Projects at the Museum of the American Indian, Heye Foundation.

On Sunday, March 8, the 90-minute film, The Shadow Catcher, will be shown, which is a record of Edward S. Curtis' thirty years of filming the lives of Native Americans, including the Hopi. These segments were taken in the years 1896 to 1930, and were compiled in 1975.

The films are free to all Museum visitors.

Jane Goodall
Renowned scientist Jane Goodall is coming to the Museum to discuss her chimpanzee research in Tanzania.
Page 5

Space Nomads
A symposium on meteorites will be held in celebration of the new Arthur Ross Hall of Meteorites.
Page 2

Wandering Jews
A group of Jews, shipwrecked centuries ago off the coast of India, have managed to retain their heritage. They will be the subject of this month's Wednesday Evening Members' Program.
Page 3

Behind the Scenes
Join us for a Behind-the-Scenes Tour of the Departments of Exhibition and Anthropology.
Page 3

Feats with Feet
Several capoeiristas will leap and dance in mock combat, and William Moore will discuss the history of Capoeira, in a lecture-demonstration of the Afro-Brazilian martial art form.
Page 5
Some of the most distinguished scientists in the field of planetary studies will gather at the Museum to present their exciting research findings on meteorites and planetary science. The program will include a preview of the Museum’s new Arthur Ross Hall of Meteorites.

**Afternoon Session:**
1:30 p.m. Introductory Remarks. Dr. Martin Perez, Chairman of the Department of Mineral Sciences, Dr. Thomas D. Nicholoson, Director of the American Museum of Natural History, and Arthur Ross, Museum Trustee.

1:45 p.m. The Birth of Planetology. Dr. John Wood of the Smithsonian Astrophysical Observatory and Harvard University surveys early ideas on meteorites, moons, and planets, and discusses how discoveries from the 1969 Apollo 11 Lunar Landing and subsequent missions have revolutionized our ideas about planets and the solar system.

2:20 p.m. Meteorites as Rosetta Stones for Planetology. Dr. Lawrence Grossman of the University of Chicago describes the different types of meteorites, including the remarkable Al- lende Meteorite, and the tales they tell about planetary history and processes.

3:15 p.m. Meteorites Falling Everywhere. New methods have enabled scientists to find meteorites in the upper atmosphere and in Antarctica, and to sweep cosmic dust off the ocean floors. Dr. Donald Brownlee of the University of Washington and the California Institute of Technology will talk about how meteorites were found in the past, how they are found today, and the significance of his most recent discoveries.

3:50 p.m. Where Do Meteorites Come From? Dr. Clark R. Chapman of the Planetary Science Institute of the University of Arizona unravels the mysteries of the asteroid belt between Jupiter and Mars, and examines the dynamic processes that bring meteorites to Earth.

4:25 p.m. The Sky is Falling. Did a meteorite cause the extinction of the dinosaurs? Dr. Eugene Shoemaker of the U.S. Geological Survey, Arizona, explores this and other questions about what happens when meteorites hit the surface of the earth, moon, and other planets.

**Preview of the Arthur Ross Hall of Meteorites:**
5:15 p.m. to 7:00 p.m. The new permanent home of the Museum’s magnificent meteorite collection features the 34-ton “Albrighto,” the largest meteorite ever taken from the Earth’s surface; moon rocks from NASA; and a series of exhibits illustrating the origins and significance of meteorites.

**Evening Session:**
7:00 p.m. Ancient Meteorites: Planetary Beginnings, and Pandora’s Box. 4½ billion years ago, it is believed a supernova exploded, creating our solar system. Dr. Gerald J. Wasserburg of the California Institute of Technology discusses this cataclysmic event as well as what happened to the solar system during its first 500 million years.

7:50 p.m. A Grand Tour of the Planets. Using striking photographs from Voyager and other NASA missions, Dr. Ronald Greeley of Arizona State University will take a look at our most current discoveries about Mercury, Venus, Earth, Mars, Jupiter and Saturn.

8:40 p.m. Where Do We Go From Here? Dr. Noel Hanner, Director of the Smithsonian’s National Air and Space Museum, discusses the future of planetary science and space exploration.

9:30 p.m. End of Symposium. All presentations will be followed by a brief question and answer period.

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**Notice:**

We regret to announce the cancellation of the Roosevelt Hello! Celebration, mentioned in the February issue of Rotunda.

**Finders Keepers Identification Day:**

Saturday, March 7

Remember that stone you found and always wondered if it was valuable? It ended up on a shelf, dusty and neglected. And those arrowheads: are they authentic? Could some of those bones be fossils? What about the bug you took a picture of and always meant to look up? Rub down your closet and dig them all out, because Saturday, March 7, is Identification Day at the Museum. From 1:30 to 4:30 p.m. scientists from several Department will be available in the Education Hall to examine your treasures, answer your questions, and tell you what you have been keeping all this time. Every year something of value is uncovered. Maybe one is in your shelf. The program is free to all Museum visitors.

Sidney Hovenstine of the Department of Invertebrates examining specimens of last year’s Identification Day.
In the Second Century B.C. a boatload of Judean Jews fleeing the persecution of the Syrian Antiochus Epiphanes was shipwrecked off the west coast of India. They settled in the Konkan region where they became oil pressers and were known as the "Shanwar Telis" (literally "Sabbath observing oil pressers"). Although they had lost all their books and soon forgot Hebrew, they continued to observe the Sabbath, Jewish holidays and dietary law, and to practice circumcision. In the Eighteenth Century, they moved to Bombay and changed their name to "Bene Israel" ("Children of Israel"). Johanna Spector, Seminary Professor of Musicology at the Jewish Theological Seminary, will present her award-winning film The Shipwrecked Telis or Bene Israel at our March Evening Members' Program. The film traces the history of this vanishing group and portrays their life in present day Bombay. The highlight of the film is a Bene Israel wedding in which the preparations, the ceremony, and the reception are all captured in detail. Of particular interest is the mendhi site, an elaborate ceremony of painting the bride. The film was a finalist at the American Film Festival and also a Cine Award winner.

The program is free to all categories of membership. Your membership card is your ticket of admission. Non-members may purchase tickets for $3.50 at the Auditorium door. Coffee and tea will be served before the program begins and Participating. Donor and Elected members may park free in the Museum Parking Lot, up to the capacity of the lot.

This program is presented in cooperation with the The Martin Steinberg Center of the American Jewish Congress — A Center for Jewish Artists.

Behind the Scenes

Participating, Donor, and Elected Members of the Museum are invited to join a special Behind-the-Scenes Tour of the Department of Exhibition and the Department of Ichthyology on Saturday, April 4, 1981 and Wednesday evening April 8, 1981.

You will have the opportunity to visit areas the public never sees. Staff members from the Department of Ichthyology will be on hand to discuss their research and take you to the storage areas which house our collection of 40,000 fish. Preparators from the Department of Exhibition will lead you through their studios and illustrate the various techniques they use to imitate nature and to recreate the cultures of other peoples.

Light refreshments will be served at the conclusion of the tour, which lasts an hour and a half. Reservations at $5.50 each can be made by completing and returning the adjacent coupon. Early reservations for the limited places are advised.
Underwater Wonderland
A three-hour series of short underwater films, presented by the Department of Education, will be shown in the Auditorium, Saturday, March 21, from 1:00 to 4:00 p.m. Including both fresh and saltwater photography, the films will explore the lives and environments of a variety of underwater creatures. In order, they will be:
1:00 — Sea Dream, an underwater fantasy by Ellen Boren.
1:10 — Sea of Cortez, John Knoop's examination of marine life on the coast of Baja California.
1:25 — The Endless Sea, a descent into the deep by the National Film Board of Canada.
1:55 — Otters, Clowns of the Sea, Wah Chang and William F. Bryan's look at otters off the California coast.
2:10 — Night Life, Robin Lehman's probing into the quiet, shadowy world of aquatic night.
2:20 — Sea Turtles, Time-Life's look at their struggle for survival, from their vulnerability on land to their relative safety in the water.
2:35 — Sea Creatures, an observation of sea life in the low depths by Robin Lehman.
2:45 — Salt Waters, Elgin Clapp's view of life in a country lake.
3:05 — Undercurrents, the ocean world's balance of nature by Robin Lehman.
3:15 — The Octopus, Time-Life's profile, taking the myth out of the monster.
3:25 — The Other World, Roman Bittman's portrayal of the delicate balance within a fresh water environment.
3:45 — H2O (silent), Ralph Steinle's study of the visual, abstract qualities of water.
The films will be shown in the Main Auditorium, and are free to all Museum visitors.

Poseidon's Perspective
On Saturday, March 28, both in the afternoon and evening, members, friends and guests of the American Littoral Society will wade and swim through a variety of topics in the 11th annual Your Future in the Sea Symposium. Discussions will cover topics that range from whales to salt marshes, from turtles to deep sea exploration. Slide presentations will be given by Doug Fahler, whose underwater photography in The Hudson Sea and The Living Reef has been highly acclaimed, and by Richard Ellis, author of The Book of Whales.

A Tale from Two Whales
Touch a whale's rib, listen to the sounds of the humpback whales, handle a narwhal's tusk, and see whal (the food of humpback whales) under a microscope, as Canada's Touring Museum for Children presents a participatory program about whales and whale biology. Designed especially for children ages three to seven years old, the program begins with the play Tale from Two Whales. In the play, which combines films, slides, costumed characters, and puppets, the audience joins Baby Humpback as she searches for her mother. As the search progresses, the audience learns that whales are mammals, witnesses the birth of a humpback whale, and helps Baby Humpback search for the krill she eats. The audience will also meet Mitch Narwhal and Bertha Balsa Bertha and they assist Baby Humpback in escaping from the clutches of that notorious pirate and whale hunter, Col. Clutharoad. At the end of the play, the children will be invited to investigate a number of participating exhibits and also to draw or cut out a whale of their own.

The program, produced by Johanna Shenan and Silvia Urmans, has traveled to enthusiastic audiences throughout Canada. It is sponsored by The New Brunswick Museum and Canada's Museum Assistance Programmes.
The Chimpanzee

Portrait of the Best Known Ape with Jane Goodall

A Special Member's Program presented by the American Museum of Natural History
Wednesday, May 13, 1981 at 7:30 p.m. in the Auditorium
$4.50 for Members, $7.50 for non-members

Members are invited to join Jane Goodall, the internationally celebrated scientist, as she presents an illustrated lecture on her pioneering research with the chimpanzees of the Gombe Stream Reserve in Tanzania. In her twenty years of research, Dr. Goodall has seen chimpanzees raise, grow to maturity and then bear young of their own. She has been charmed by infant chimpanzees and threatened by aggressive adolescents. And she has witnessed family quarrels and reconciliations, the rise of dominant males, and the splintering of a chimpanzee community.

Dr. Goodall is the author of numerous publications, including the highly popular book, In the Shadow of Man. Her Lecture Tour has been arranged through the L.S.B. Leakey Foundation, which also funds a portion of her research.

To order tickets, please use the adjacent coupon. Early reservations are strongly advised because of the limited number of tickets.

The Chimpanzee

I would like to order tickets for Jane Goodall's Lecture

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

On Sunday, March 15, at 2:00 p.m., the African-American program of the Department of Education will present a lecture demonstration of Capoeira. This Afro-Brazilian martial art form is unique in that it trains advocates to fight equally as skillfully upside-down using their feet, as upright using their hands.

Capoeira was developed in Brazil during the colonial period when Portugal transported thousands of Africans into slavery. It developed among the slaves as a form of self-defense against their masters, and as a means of adding off brutality hunters after escape. Because of this, both the practice and the teaching of Capoeira were outlawed by the Portuguese.

Instead of practicing it in secret, the art became disguised as a dance form and was performed to the accompaniment of drums and singing. As a result it could be performed openly, with the masters looking on, somewhat amused, at a "dance" done by slaves leaping about and kicking at each other.

William Moore, who has spent fifteen years studying Afro-Brazilian culture, much of it on Capoeira, will lecture on its history and introduce the demonstrations of several capoeiristas. These men, as children, learned the art from masters in their native state of Bahia, Brazil. They have performed internationally, and now teach the art to Americans here in New York City. The program will be in the Auditorium and is free to all Museum visitors.

Dance of Defense

Sunday, March 15
2:00 p.m. Auditorium
Courses for Stargazers

Astronomy

Introduction to Astronomy. Begins April 7, eight sessions. Tuesdays, 6:30-8:40 p.m. $55 (for Members). Dr. Bartol. Starts, Constellations, and Legends. Begins April 7, eight sessions. Tuesdays, 6:30-8:40 p.m. $40 (for Members). Mr. Levitt.

Astronomy Round Table. Begins April 6, eight sessions. Mondays, 6:30-8:40 p.m. $55 (for Members). Dr. Franklin.

Earth and Moon. Begins April 7, eight sessions, Tuesdays, 6:30-8:40 p.m. $55 (for Members). Dr. Franklin.

How to Use a Telescope. Begins April 8, eight sessions, Wednesdays, 6:30-8:40 p.m. $55 (for Members). Mr. Storch.

Astrophotography. Begins April 9, six sessions. Thursdays, 6:30-8:40 p.m. $40 (for Members). Mr. Storch.

Aviation

Ground School for Private Pilots. Begins April 6, four sessions; Mondays and Wednesdays, 6:30-9:40 p.m. $175 (for Members). Mr. Mayorga.

Navigation

Navigation in Coastal Waters. Begins April 9, eight sessions. Tuesdays, 6:30-9:00 p.m. $90 (for Members). Dr. Hess. Introduction to Celestial Navigation. Begins April 7, eight sessions; Tuesdays, 6:30-9:00 p.m. $90 (for Members). Mr. Panaham.

Advanced Celestial Navigation. Begins April 6, eight sessions; Mondays, 6:30-9:00 p.m. $90 (for Members). Mr. Panaham.

For Young People

Young People Astronomy. Three begins April 11, five sessions, Saturdays, 11:00 a.m.-12:00 p.m. $20 (for Members). Mr. Thomas.

For More Information about Planetarium courses, write to the Hayden Planetarium, 81st Street and Central Park West, New York, New York 10024 or call (212) 873-1300, ext. 206 or 211.

Programs and Tours

People Center. Ethnic programs featuring dance, music, lectures, and workshops are presented Saturdays and Sundays, from 1:00 to 4:00 p.m. (See article 2.)

Natural Science Center. The Center introduces young people to the varied wildlife, plants, and rocks of New York. City. Some exhibits include live animals. The Center is open Tuesday through Friday, 2:00 to 4:30 p.m., and weekends from 1:00 to 4:30 p.m.

Discovery Room. Children are delighted to touch and handle natural history specimens in imaginative "discovery boxes." Starting at 11:45 a.m., free tickets are distributed on a first-come, first-served basis at the first floor Information Desk. The room is open only on weekends from 12:00 to 4:30 p.m.

Gossamer Albatross. (Science Gallery, second floor.) March 1 through May 30. An exhibit on the struggle to survive on wind-powered flight, including the Gossamer Albatross, which flew across the English Channel in June of 1979. (See article page 7.)

Stories of Diamonds. (Science Gallery, first floor.) What diamonds are, and how they got from rough stones to the glinting gems we recognize. Includes three hundred fancy, colored diamonds worth $10 million. Through March 22.

Joseph Wolf. Natural History Artist. (Science Gallery.) Through May. An exhibit of natural history illustrations, both the work of Joseph Wolf, and of the Birds of Paradise of the many wild cats.


The Gordon D. Stout Hall of Asian Peoples. The Museum's new permanent exhibition hall, containing over three thousand works of art and artifacts.

Profiles of the Past. The Geography of Three Southwest Canyons. (Gallery 27, first floor.) Through May 1. Photographs, rock samples, geologic maps, fossils, and other illustrative material on the geography of the Grand, Bryce, and Zion canyons.

New Exhibitions

Hopi Kachina: Spirit of Life. (Gallery 3, third floor.) A nationally touring exhibition about Hopi culture, particularly the role of the kachina, friendly spirit messengers. Through June (See article page 1.)

Bird, Cloud, Snake: Hopi Symbols. (Science Gallery, second floor.) March 10 through May 15. An overview of decorative symbols for agricultural fertility, and their use in modern Hopi art. (See article page 1.)

April at the Museum

Saturday, April 4 Members' Behind-the-Scenes Tours. (See article page 3.)
American Dance Theater. 2:00 p.m. Auditorium. Free.

Sunday, April 5 Members' Behind-the-Scenes Tours. (See article page 3.)

Wednesday, April 8 Birds of Prey. Family Members' Program with Bill Robinson. 1:00 p.m. Birds of Prey. Family Members. $1.00 (ages 3-7); 3:00 p.m. (all ages). Auditors and Members, $1.00 for non-members.

Wednesday, April 15 Alvin Alley. Dance. 7:30 p.m.

Tuesday, April 21 Skin and Bones. Family Members' Program with Muster School. 1:00 — 4:00 p.m. People Center. Free and open only to Members.

Wednesday, April 29 Meteorite Symposium. (See article page 2.)

Museum Information

Museum Hours. Monday, Thursday, and Friday: 11:00 a.m. to 6:00 p.m. Saturday and Sunday: 10:00 a.m. to 4:45 p.m. Wednesday: 10:00 a.m. to 8:00 p.m.

Cafeteria Hours. Monday through Sunday: 11:00 a.m. to 4:15 p.m. Thursday evening: 5:30 to 7:00 p.m.

Museum Shops. Located on 81st Street. Open Monday through Thursday: 9:30 a.m. to 9:30 p.m. Friday through Sunday: 9:30 a.m. to 12:30 p.m. Free for car, $5.00 for buses. Parking is limited.

Costs. Checking. The cost check rooms are located in the basement next to the cafeteria, and on the second floor of the Roosevelt Rotunda. There is a charge of 40¢ per item.

Museum Research Stations. Museum Members have visiting privileges at two research stations. If you are planning a visit, please write ahead for details.

Architectural Biological Station. Route 2, Box 186, Lake Placid, Florida, 33852.
Southwestern Research Station, Portal, Arizona, 85623.
Bringing Back
The Gorilla Group

Mythical Musings
Sunday, March 22

Many people have experienced lengthy waits for events in the real world, while "real time" has elapsed only moments. Usually, these visions are regarded as purely imaginary in terms of their scientific credibility, regardless of any "greater reality" in the life and psyche of the person who experiences them. Some Indian texts, however, tell of men who seem to prove to other observers — in terms of space, time, and physical data — the reality of what they had dreamed.

On Sunday, March 22, at 2:00 p.m., in the Auditorium, Dr. Wendy Doniger O'Flaherty, Professor of History of Religion at the University of Chicago, will give a lecture titled: "How to Prove that a Mythological Experience is Real. Based on ideas from her articles "Inside and Outside the Mouth of God: The Boundary between Myth and Reality," she will explore the ways these myths went about proving their experiences.

The program is sponsored by the Department of Education, is free to all Museum visitors.

Wings of Man

A dream that had roots going back to Leonardo da Vinci was fulfilled on June 12, 1979: a man flew across the English Channel entirely under his own power.

Beginning March 1 and running through May, the machine he flew, the Gossamer Albatross, will be on display on the second floor of the Roosevelt Rotunda. Weighing only seventy pounds, with a wingspan of nearly six feet, the Gossamer Albatross was conceived by Paul MacCready, who had dreamed of creating a human-powered flight with a payload capability.

MacCready and his team experimented with a variety of materials to create the most life-like duplicate possible. For the wild cypress plant, 50,000 leaves were made out of crepe paper, wire, and wax. The variation pattern of the leaves, taken from the actual plant's cast, was pressed on the basic elements of paper leaves. Fine wire was attached to the midrib of the leaf in order to attach it to the main stem. The paper leaf was then dipped in wax and assembled on the stem to be painted with an airbrush. Each of the two-twenty species of plant was created in its own painstakingly individual manner.

The collection of leaves reached the Museum's compressed laboratory, where they were placed in hot water, then transferred to a preserving solution which slowed their browning. Airbrushing then revealed their original color as recorded in Leigh's studies.

One tree was brought back whole, while another was created by covering a wooden frame with wicker mesh, batiste, and paper-mache.

Before either the animals or the foreground were installed, Leigh recreated the view. The impressive scene was placed on a curved panoramic background measuring eighteen feet by seventy feet. Finally, animals and plants were added, taking exceptional care to tie the background and foreground together. The whole exhibit would look convincingly real.

Nineteen other exhibits were prepared in similar ways, all based on the detailed notes and plants that Carl Akeley left. On January 19, 111 years after the anniversary of his birthday, the Hall opened and was dedicated the Akeley Memorial Hall of African Mammals.

— Kate Bennett-Mender
Iron from the Sky
At a major symposium marking the opening of the new Arthur Ross Hall of Meteorites, experts will discuss meteorites' significance in laymen's language.
Page 5
Also in this issue: information in the Members' Memo about the Members' reception for the new Hall, and an unusual Letter from the Field, written by Robert E. Peary in 1896 on his struggle to excavate the 31-ton "Ahmighito" meteorite, now in the hall.
Pages 2 and 4

High Flying Hunters
Bill Robinson will bring two hawks, an eagle, and an owl to the Museum for this month's Family Members' Program. Don't miss these close-up demonstrations, including how birds fly.
Page 3

Black Market Treasures
The plundering of archeological sites in the Middle East and Italy, and the ethical problems raised in acquiring these finds, will be the subject of a special film series, Visions of Antiquity: Legit and Illicit.
Page 8

Fossils of Fifth Avenue
Sidney Horenstein will give his famous tour of the fossils of Fifth Avenue, plus a new nature walk of Inwood Park this month.
Page 7

Secret Places, Hidden Treasures
People often think of the Museum only in terms of its exhibitions and programs. But behind these there is a world of 34 million objects housed in storage areas of scientists engaged in research; of conservators preserving the collections for posterity; and of artists preparing new exhibits for the future. It is a world that the public never sees, but one which Members can explore in our unique Behind-the-Scenes Tours. This spring we will conduct tours of the Departments of Exhibition and Ichthyology.
Preparators from the Department of Ichthyology will take you through their studio to show you the techniques they use to recreate the habitats and haunts of peoples, plants, and animals from every corner of the world. You will find out about the Akeley technique for exhibiting mammals; see a scale-making machine in operation; and view the models, molds, and casts used in the creation of the Hall of Asian Peoples, as well as other recent exhibitions.
Members will visit the Department of Ichthyology's storage areas to see a sampling from their collection of more than 460,000 fish. You will see shark skulls, exotic species, beautifully dyed specimens, and one of the Museum's most remarkable treasures: a primitive female codfish and her embryos. Scientists from the department will be on hand to explain how fish are collected, preserved, and used in scientific research.

The end of each tour. Tours last about an hour and a half.
Dates: Saturday, April 4
Wednesday evening, April 8
Price: $5.50
The tours are open only to Participating, Donor, and Elected Members of the Museum. The tours were originally advertised in the March issue of Rotunda and only a limited number of places are still available. To reserve a space, please call (212) 873-1327.
Alvin Ailey

Wednesday, April 15
Auditorium. 7:30 p.m.

For the seventh consecutive year the Department of Education is presenting the Alvin Ailey Repertory Ensemble in a program of dance and creative movement.

The Ensemble was founded in 1974 under the artistic direction of Sylvia Water, a former Ailey dancer. They not only study and perform works from the standard Ailey repertoire, but present original works by students and other choreographers as well. The Repertory Ensemble has gained widespread recognition as a vehicle for the creative expressions and development of young artists in both movement and design. Tickets for the performance are free, but will be available only on the day of the performance at the first floor information desk. They will be distributed on a first-come, first-served basis beginning at 5:15 p.m. Only ticket holders will be admitted to the performance, so we suggest Members come early to avoid disappointment.

Members’ Memo

This spring, Members are invited to receptions to honor two openings—the new Arthur Ross Hall of Meteorites, and a special summer exhibition, Shakespeare: The Globe and the World.

The reception for the Hall of Meteorites will be on Tuesday evening, May 18. There will be a private viewing of the Hall, which features a wide variety of meteorites and moon rocks, and includes exhibits and audio-visual presentations which explain the origins of meteorites. The visual focus of the Hall is the 21-ton “Agnihotri,” the largest meteorite “in captivity” in the world. A special Auditorium program with refreshments is planned for the evening. The program will feature films from NASA with footage of the Apollo Lunar Missions and simulations of meteorite bombardments. In addition there will be a short slide presentation on the dramatic story of transporting “Agnihotri” from frozen Greenland to the Museum.

Marta Prieto, curator of the Hall, will be on hand to answer any questions you might have about meteorites and planetology.

The May issue of Rotunda will provide you with more details about the reception.

Shakespeare: The Globe and the World is a special exhibition from the Folger Shakespeare Library in Washington DC. Featuring the finest items from their world famous Shakespeareana collection, this multi-media exhibition is on a 24-month cross-country tour and will open Thursday, June 18, in Gallery 3. That evening, Members are invited to a private reception to view the Hall and afterwards to honor the bard and celebrate the summer solstice under the stars. Save the dates for both receptions on your calendar. Details will follow in the next issue.

Peter Chernoguyoff’s film, Lion, is one of a series of nature films that will complement the Skins and Bones program...

Skins and Bones

On Tuesday, April 21, Members are invited to attend a program entitled Skins and Bones in the Museum’s People Center. The program will focus on North American and African animals, and the important roles they play in diverse human cultures.

Israel Calderon of the Museum’s Department of Education will use skins, bones, skulls, tusks, and mounted specimens to explain the biology and habits of bears, deer, elephants, lions, and other animals. Nat Johnson, another member of the Department, will present an array of objects from the collection, ranging from an inquisitive rattle shaped from a turtle shell, to an East African whale bone fashioned from an elephant tail. These will illustrate how animals are used by different Native American and African cultures. The two presentations will be complemented by a series of short nature films. The program will be held from 1:00 to 4:30 p.m., and Members are welcome to drop by any time between those hours. The program is free and open only to Members of the Museum.

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An Evening with Jane Goodall

On Wednesday, May 13, at 7:30 p.m., the celebrated scientists Dr. Jane Goodall will present a film-illustrated lecture entitle_The Chimpanzee: Portrait of the Best Known Ape. Focusing on her ongoing research in Tanzania, Dr. Goodall will discuss the hills and valleys of her chimpanzee community. Dr. Goodall has studied for the last twenty-one years. More than two decades ago, anthropologist Louis Leakey encouraged her to do research on chimpanzees, and helped her obtain a small grant to fund her first work. With a minimum of equipment she trekked to the remote eastern shore of Lake Tanganyika. In what is now Tanzania. There she studied chimpanzees in their natural habitat. Since then she has been charmed by infant chimps who touch her and still her fingers. to see what she is attacked by adolescent males, who pound on her and pull her hair as part of their frustrating struggle to dominate females. She has seen a delight-clash moment of her chimpanzees while playing with their children, and then seen those children grow to maturity, and begin living on their own. She has witnessed family squabbles and reconciliations, wars between different groups, and times of peace. While Dr. Goodall acknowledges similarities in their behavior to that of humans, she has to draw parallels. She claims that there are differences between the two intellectual capabilities. "What a fantastic intellectual leap we've made, what a fantastic brain we have developed. You can't imagine a chimpanzee building Notre Dame. And you can't imagine a chimpanzee wrestling with his conscience."

There are times though, she admits, when the similarities are remarkable and the comparisons are unavoidable. At times like this, she can only shake her head and chuckle. "They do set us to thinking about the way we act, don't they?"

I would like to order tickets to Visions of Antiquity. Participating, Donor, and Elected Members may purchase up to six tickets at the Member's price of $12.00. Associate Members may purchase one. All other tickets are $18.00.

Number of Member's tickets at $12.00:
Number of non-member's tickets at $18.00:
Total amount enclosed:

Name:
Address:
City: State:
Zip:
Daytime phone:
Membership Category:

Please make check payable to the American Museum of Natural History and mail with a self-addressed, stamped envelope to:

Visions of Antiquity
Programs and Education Department
The American Museum of Natural History
Central Park West at 79th Street
New York, New York 10024

Do not send orders to the Museum as this will delay processing.

Due to popular demand, Jane Goodall has agreed to present a second lecture on Tuesday, May 12 at 8:00 p.m. in the Auditorium. Please use this coupon to order tickets (Tickets previously ordered for the May 13 Lecture will be mailed by April 31).

Participating, Donor, and Elected Members may purchase up to four tickets at the Members' price. Associate Members may purchase one.

Members' tickets at $4.50 each:
Non-members' tickets at $7.50 each:
Total payment enclosed:

Name:
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Visions of Antiquity: Lect and film will be presented three Mondays in May by the New York Society for the Archologcal Institute of America. On all three evenings full-color films will be shown at 7:00 p.m. in the Auditorium, followed by informal discussions with invited guests. The three films will be: Monday, May 4, The Plunderers (Part II): Treasure Trail. The American premiere of a BBC/Time-Life documentary investigating illegal digging in Turkey. Impoverished farmers sell their finds to dealers, who in turn make enormous profits through resale to museums and private collectors. Monday, May 11. The Plunderers (Part II): Hot Pot. An investigation into the Etruscan tombs and the devastation of the Egyptian temples and graves, many of which lie in the Valley of Kings and Nobles in Luxor. Monday, May 18. The Royal Archives of Ebo. An overview of the recent scientific excavations in Syria that have unearthed more than 17,000 clay tablets. The film explores the Biblical-sounding names in the texts that have aroused not only great interest but controversy as well. Tickets for the series will cost $18.00 ($12.00 for Members). Please note that no single evening tickets will be sold. To order tickets use the adjacent coupon. Make checks payable to Visions of Antiquity and mail with a self-addressed, stamped envelope to the Archological Institute of America, 53 Park Place, New York, NY 10008.

Birds of Prey

Auditorium, 7:00 p.m.

On Sunday, April 12, Auditorium 1:00 p.m. for children under seven 3:00 p.m. for all ages

At a rather sedate dinner in the Hall of Ocean Life to honor Charles Lindbergh, a guest speaker stood at the podium and said, "This is an example of true flight." He raised his arms and from somewhere in the balcony an enormous Har- Close-up view of the sky through the open door of the audience, showing the details of the birds in the sky. The hawk that came to dinner, as well as an African Tawny eagle, a Red-Tailed eagle, and a European eagle owl, will all come to the Museum with Bill Robinson, their keeper and trainer for this month's Family Members' Program. One program at 1:00 p.m. will be specially tailored to an audience of children under seven, and the other, at 3:00 p.m. will be for all ages. The presentations will include live demonstrations of how a bird flies, and will also cover such unique physical features - their talons, their remarkable eyesight, and their beaks. Incorporated into the discussion will be slides and a brief film.

Birds of Prey flying over a city skyline. The birds are depicted in mid-flight, with wings outstretched and eyes focused on the ground below.

Many of our native hawks and owls have been drastically reduced in numbers," he says, "due to man's misunderstanding of their importance in the environment.

By presenting them as the fascinating animals that they really are, and by creating a public awareness of their usefulness, he hopes to fend off the threat of their extinction. The program is free to all categories of Membership. Your Membership card is your ticket of admission. Non-members may purchase tickets for $3.00 at the Auditorium Door.

Visions of Antiquity:

Mondays, May 4, 11, 18

Birds of Prey:

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The American Museum of Natural History presents

The Arthur Ross Meteorite Symposium

with a special preview of the Arthur Ross Hall of Meteorites

Wednesday, April 29, 1981

Afternoon Session 1:30 to 5:15 p.m. Evening Session 7:00 to 9:30 p.m.
in the Auditorium

$3.00 for Museum Members and Students
$5.00 for non-members.

Preview of the Arthur Ross Hall of Meteorites

5:15 p.m. to 7:00 p.m.

The new permanent home of the Museum's magnificent meteorite collection features the 31-ton "Ahnighito," the largest meteorite ever taken from the Earth's surface, and a series of exhibits illustrating the origins and significance of meteorites.

Evening Session

7:00 p.m. Ancient Meteorites, Planetary Beginnings, and Ponderosa's Fox. An billion years ago, it is believed a supernova exploded, creating our solar system. Dr. Gerald J. Wasserburg of the Calhoma Institute of Technology discusses this cataclysmic event as well as what happened to the solar system during its first 500 million years.

7:50 p.m. A Grand Tour of the Planets. Using striking photographs from Voyager and other NASA missions, Dr. Ronald Greeley of Arizona State University will take us on a look at our most current discoveries about Mercury, Venus, Earth, Mars, Jupiter and Saturn.

8:40 p.m. Where Do We Go from Here? Dr. Noel Hanner, Director of the Smithsonian Institution's National Air and Space Museum, discusses the future of planetary science and space exploration.

9:30 p.m. End of Symposium.

All presentations will be followed by a brief question and answer period. At the end of each session all the panels will be available for questioning.

For the convenience of symposium participants, the Museum Cafeteria will be open from 5:30 to 7:00 p.m., and the Lion's Lair will be open for drinks from 3:30 to 7:00 p.m.

Europeans exploring the Arctic regions in 1818 were puzzled to encounter an isolated group of Eskimos using knife blades and harpoon points of iron, rather than the standard stone, antler or bone material. The Eskimos told English Sea Captain John Ross that they regularly journeyed to an "Iron Mountain" to secure their superior blade material. Although Ross never found their source, the tools he brought back had a high nickel content, which led scientists to identify the iron as meteoritic.

With a steady supply of European iron from expedition and whaling ships, the Eskimos gradually stopped depending on the meteoritic iron. In May of 1894, Robert E. Peary, the man who was later to discover the North Pole, was guided to the iron source. His guides, Tuskokoh and Kekauk, explained that the three meteorites were originally an Innuit Woman and her Dog and Tent hurled from the sky by Tor nanuk (the East Spirit).

Convinced he wanted to secure them, Peary returned in 1895 and engineered the lifting and shipping of the iron Dog and the 3-ton Woman. The 31-ton Yents (Ahnighito), however, was much too big for the tools and the ship. In 1896, Peary again returned to secure the giant. In his own words, this is the story of that "field season."

As Peary's expedition draw to a close in 1896, the history of the Ahnighito meteoric body was written.

WORK ON "AHNIGHITO" IN 1896.

Determined to secure the giant, he chartered a larger ship, the Hope, of 307 tons net register, and went north in July of 1896, reaching Cape York August 9th.

The first thing to be done was to warn the itinerant visitor from its frozen bed of centuries, and as it rose slowly inch by inch under the resistless lift of the hydraulic jacks, gradually displacing its ponderous sides, it was removed from 11.5 miles away as Niagara goes upon the observer, and there it was cut into fragments, the largest weighing over 12 tons.

I would like to order tickets to the Arthur Ross Meteorite Symposium. Participating, Donor, and Eligible Members may purchase up to six tickets at the Member's price of $3.00. Associate Members and students may purchase one ticket. All other tickets are $5.00.

Member and Student Tickets at $3.00
Non-member tickets at $5.00

Total Amount Enclosed

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

Robert Faries/1981.

Ahnighito on the Move.
spring loaded upon heavy timbers across the few yards intervening between it and the crest of the hill, it was then rolled down the slope to the natural rock pile.

It was interesting, though irritating, to watch the stubbornness of the monster as it sidled and hung back to the last inch. Under the strain of the two powerful chain blocks which transformed the wire cable and the big chain straps into rigid bars of steel, and urged by the irresistible lift of the jack, the huge brown mass would slowly and stubbornly rise on its side, and be forced to a position of unstable equilibrium, then everyone, except the man at the chain blocks down at the foot of the hill, would stand aside.

A few more pulls on these, then cable and the chain straps would slacken, the top of the meteorite would move almost imperceptibly forward, the stones under the edge of revolution would begin to splinter and crumble, then, amidst the shouts of the natives and our own suppressed breathing, the "Iron Mountains" would roll over. When it struck the ground the harder rocks would shatter, sparks from its brown surface before they cooled, and crumbled, the softer ones would dissolve into dust and smoke, and the giant would bury itself half as deep in the earth with slow, resistless motion of a hydraulic punch cutting cold iron.

Arrived at the bottom of the slope, the meteorite was again lifted upon the rails and timbers, and slowly and laboriously pushed forward towards the edge of the pier.

Never have I had the temt mimic majesty of the force of gravity and the meaning of the terms "momentum" and "inertia" so powerfully brought home to me, as in handling this mountain of iron. No purchase or appliance which we could bring to bear upon it, outside of the jacks, made the slightest impression upon it. When lowered slowly upon heavy timber blocking the jacks, it settled resistlessly into the wood until it seemed as if it would never stop. The timber creaked and groaned in every fibre. If the meteorite slipped and fell even for half an inch, as it frequently would, in spite of every precaution, it would bate into the steel rails like a punch, and the oil itself would sink into the timber beneath.

The inherent duality of inanimate objects was never more strikingly illustrated than in this monster. Had the matter been a subject of study for weeks by the celestial navigator, I doubt if any shape could have been devised that would have been any more completely suited for handling in any way, either rolling or sliding or lifting.

The difficulties in getting a hold on it were also great. The shallowness of the conoidal depressions on the surface left but few places where a jack could be applied. Even when it was possible to get a grip with the head of the jack, the hardness of the metal, combined with the slanting angle of contact between the jack and the surface of the meteorite, necessitated following the mass up closely with block and wedges, so that if the head of the jack, like a melon-seed pressed between thumb and finger, flew out, the meteorite could not fall back. In spite of every precaution, however, this sometimes happened, and I have a half inch steel link on which the meteorite fell a distance of perhaps an inch, which is flat-tened as if it were so much lead. These terrific blows were too much for my two thirty-ton jacks, which, owing to the failure of the sixty-ton one, had been constantly working beyond their capacity, and they gradually gave out, until at last I had only the unwieldy hundred-ton one left. Then progress became so slow that before I could get the meteorite close to the edge of the pier a famous south-easter broke up my iceberg barrier, and the pack ice of Melville Bay driving upon the shore forced us to pull the ship out with haste to avoid having her crushed like an eggshell against the rocks.

There were many incidents of the work to suggest the supernatural, even to the most prosaic mind. The dogged salien obstinacy and enormous inertia of the giant against being moved, an utter contempt and disdain of all attempts to guide or control it when once in motion, and its remorseless determination in which it destroyed everything opposed to it, seemed demonic.

I remember one particularly striking occasion. It was the last night of our stay at the island - a night of such savage wildness as is possible only in the Arctic regions. The wild gale was howling out of the depth of Melville Bay through the Hope's rigging, and the snow was driving in horizontal lines. Working about the meteorite was my own little party, and in the foreground the central figure, the rime d'or of all the "Saviskoah," the "Iron Mountains," towering above the human figures about it, and standing out black and uncom- promising. While everything else was buried in the snow, the "Saviskoah" was unaltered. I sat down and took it, and the effect was very impressive. It was as if I were saying: "I am apart from all this, I am heaven-born, and still carry in my heart some of the warmth of those long gone days before I was hurled upon these frozen seas."

The next year, Peary, his crew, and his wife and daughter sailed into Melville Bay for another try at "Saviskoah. The ship Hope was outfitted with the sturdier tools available, and they finally succeeded in unraveling the giant mass from its frozen bed.

It was Peary's wife who told the meteorites to the Museum. In a letter written to President Moses K. Jeffries in 1906, she offered them for sale:

"The meteorites are all I have, and I feel that I should make an effort to burn them into money and invest so that my children may have something with which they can be educated and trained to earn their living. Mr. Jeffries would sell me for bottoming you what can I do? I have come to the conclusion that it is much easier to go to the Arctic and do the thing you are interested in and want to do than it is to stay at home, bring up the children, fight your husband's battles and look out for friends and butter for the family. I think however, I will do the exploring and let Mr. Peary take care of the home life."

Three years later, they sold for a price of $40,000. "Saviskoah, the Woman, and the Dog," will all be on display in the new Arthur Ross Hall of Meteorites.
**Traditional Voices**

On three Wednesday evenings, April 29, May 6, and May 20, at 7:00 p.m. in the People Center, the Touchstone Center will present Versions of the Traditional. The three evenings, featuring poetry of the Southwest Indians, the Nuer of Ethiopia, and the Eskimoes, are in honor of the late Dr. Laura Boullon, ethnomusicologist, author, filmmaker, and explorer.

On April 29, David McAllister, Professor of Anthropology and Music at Wesleyan University, will read and discuss the music and songs of the Southwest Indians. He is one of the founders of the Society of Ethnomusicology and his research centers on religious arts of the Navajo. In his latest book, Hopi, he juxtaposes his translations of Navajo house songs with photographs of their contemporary homes.

On May 6, Terese Svoboda will read selections from her translations of Nuer poetry. The Nuer live on the banks of the Nile in the southeast Sudan. Ms. Svoboda's translations of Nuer poetry have appeared in Antaeus and Translation. She is currently a co-producer of the Touchstone Center at Columbia University for a 5 film series on oral literature in performance around the world, to be shown on Public TV.

On May 20, Richard Lewis, educator, writer, and theater director, will read translations of Eskimo poetry. He has published numerous books of poetry, including Out of the Earth I Sing and I Breathe a New Song, Poems of the Eskimo. He is also the Director of the Touchstone Center in New York City.

All these programs are free to Museum visitors.

**Dances of the Orient**

Sunday, April 5, Auditorium, 2:00 p.m.

On Sunday, April 5, at 2:00 p.m., in the Auditorium, there will be a performance by the Asian-American Dance Theatre. The company is made up of two co-existing companies, one performing traditional, and the other modern, Asian dances. All of the dancers are natives of their respective countries, and began their training in Asia. Founded as a means of bridging cultural differences among Asian-American communities, the Dance Theatre presents a program of dances from China, Japan, the Philippines, India, Bali and Tahiti. This particular program will also feature two modern Asian works, developed in the United States.

The program is sponsored by the Department of Education and is free to all Museum visitors.

**Focus on Southeast Asia**

People Center. Weekends.

During the month of April, the cultures of Southeast Asia will be on stage in the People Center. Every weekend, from 1:00 to 4:00 p.m., programs from Indonesia, Thailand, and Malaysia will be presented, focusing on the cultural elements of the performing arts in each country.

On April 4 and 5, Endo Suanda, a Javanese maskmaker, will demonstrate his craft. He will also explain the major characters in Javanese mythology, showing their respective dance movements.

Suanda and Suarti, two sisters from Bali, will perform Balinese dances April 18 and 25. While students of dance in Bali, they both won, in separate years, the all-island competition in traditional dance.

There will be other dance performances each day, ranging from Central Javanese to Balinese to Malaysian, as well as combined programs of folklore and dance from the various countries.

Other events include Stories of Southeast Asia with Laura Strohs, and films on aspects ranging from Family Life in Malaysia to Harvest of Nong Loh (Thailand).

Check the full page calendar in this issue for complete listings. The Southeast Asia Month is presented by the Department of Education and is free to Museum visitors. Note that the People Center will be closed Easter Sunday, April 19.
Urban Fossil Hunts

This spring, Sidney Horenstein of the Museum’s Department of Invertebrates, will lead Museum Members on a fossil tour down Fifth Avenue and on a nature walk through Inwood Park.

Fossils of Fifth Avenue: This tour begins with a look at 40-million-year-old fossils embedded in the walls of the Sherry-Netherland Hotel, and ends at Rockefeller Center, where Members will view 450-million-year-old ancestors of the chambered nautilus. In between these stops, Members will see ancient coral reefs from Mauritania, extinct chambered animals from France, and 100-million-year-old clams from Italy. And of course a tour of Fifth Avenue would not be complete without looking at the fossils at Tiffany’s. Mr. Horenstein will point out these various fossils and also explain how the different building stones were formed, quarried, and what they tell us about the geologic history of the Earth.

Inwood Park: On this tour, Sidney Horenstein will share with Members the delights that great visitors in Manhattan’s last remaining woodland, Tulips, Lindens, Beeches (including the island’s largest copper beech tree), specklebush and numerous other trees, both native and foreign, grace the park’s landscape. The park also contains glacial pot holes, whale backs, and other features which provide vivid evidence that glaciers crept across the region thousands of years ago. From the park’s spectacular overlooks over the Hudson River, Mr. Horenstein will explain the geologic forces that shaped the lower Hudson Valley and New Jersey’s magnificent Palisades. Besides its natural history, the park is also rich in human history, and Members will view the caves and shell hoards that were once used by Native Americans.

Members exploring for fossils near Rockefeller Center with Sidney Horenstein. He will offer both his famous Fossil of Fifth Avenue and a new nature walk of Inwood Park.

and see where the Hessian soldiers bivouacked during the Revolutionary War. The tours are open only to Participating, Donor, and Elected Members of the Museum. The cost of each tour is $3.50. To join please fill out the Museum Research Station’s Tour Request Form with a Visa, MasterCard, American Express, or personal check made payable to the American Museum of Natural History.

Please register me for the tours marked below. I enclose my check for $...

Museum Information

Museum Hours. Monday, Tuesday, Thursday, Friday, Saturday, Sunday, and Holidays:

Fossil of Fifth Avenue July 10:30 a.m. tour Sunday, June 7 1:00 p.m. tour Sunday, June 7 1:00 p.m. tour

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The Opening of
The Arthur Ross Hall of Meteorites

Thomas Jefferson, when confronted
with scientific evidence for meteorites
in 1807, was quoted as saying, "I'd
rather believe that a Yankee professor
would lie than that rocks could fall
from the heavens." In 1894, Eskimos,
relating the myth about three of the
Cape York meteorites, claimed that
they were an Inuit Woman with her
Dog and Tent that had been hurled
from the sky by an evil spirit.

Scientific credibility and popular
understanding of meteorites have
come a long way since then. Just how
far is apparent in the new home for
the Museum's extraordinary collection,
the Arthur Ross Hall of Meteorites.

What are meteorites? Where do they
come from and what happens when
they hit? These questions and more
are explored in the new hall.

At the center is the enormous
Ahnighto, the 31-ton Tent of the Es-
kiros myth. This is the largest meteor-
ite in captivity anywhere in the world.
Examples of all known types of
meteorites are displayed, with informa-
tion on where each was found. There
is also a map explaining where meteor-
ites have been found most frequently
and why. Audio-visual presentations
give an historical perspective. Including
old footage of the Tunguska events
during which thousands of square
miles of Siberian forests were de-
stroyed, scientists suggest that the area
may have been struck by a comet. In
addition there are moon rocks from
NASA which illustrate the three major
rock types found on the moon's sur-
face.

Dr. Martin Pitz, Chairman of the
Department of Mineral Sciences and
curator of the hall, says, "We are try-
ing to increase the public's awareness
of the important and exciting advances
in the study of meteorites and related
planetary sciences. Meteorites tell us
about the beginning of the solar sys-
tem, and the relationship between the
planets. They put the history of the
earth in perspective."

There will be a special Members re-
ception and viewing of the hall Tues-
day, May 19, from 5:45 to 9:00 p.m.
For more information see page 5.
In a special program at the Museum, five men and three women from Suriname, South America, will give a performance of dancing, drumming and singing. The performers are Maroons, natives of Suriname, who are visiting the United States to supplement the touring exhibition Afro-American Arts from the Suriname Rain Forest. The exhibition will open in Gallery 3 of the Museum in October of this year. The program will feature both secular and religious music, including finger-piano compositions, singing, drumming, and dancing for various forest spirits and warrior gods; popular songs that recount local gossip; and the senous women’s dances with which men are welcomed home after a long absence from tribal territory.

The Maroons are descendants of African slaves who escaped from coastal plantations in the 17th and 18th centuries and established villages along the inland rivers. Joining two small bands, they and their descendants waged guerrilla warfare against the colonists and, after 150 years, won their freedom. Their isolation in the rain forests has allowed their African traditions to remain relatively intact, and they have been called the most African of all Afro-Americans.

The program, presented by the African-American and Caribbean Programs of the Department of Education, will be in the Museum Auditorium and free to all Museum visitors.

Dancers, drummers and singers from Suriname, South America are coming to the Museum as a prelude to a longer exhibition on their arts and crafts.

Members’ Memo

Toll Free Number
When you become a Member of the American Museum of Natural History, we put your name in a computer system, which automatically sends you your card and creates the labels for your Natural History magazine and your Rotunda. We keep the list filed by zip code and last name. When anything goes wrong with your Membership, we call the computer operators, and they tell us about your most recent order and whether they can see any problem with the delivery of your benefits. As Members, you can also have access to the file by calling the following toll free numbers: (800) 526-0331, or from New Jersey, (800) 932-0834.

The number is most useful when you want to put through a change of address or a name correction. It is the quickest way to accomplish the change.

There is one other way the number may be of some use to you, and that is in checking to see if your renewal has been processed. For example, if a second renewal notice comes a month or so after you have renewed, you could phone to determine whether we received your payment.

If anything they tell you seems incorrect, call us for help at the Membership Office, (212) 772-8540. The computer operators can only tell you what they see on their computer terminals. We in the Membership Office will be happy to interpret the information for you and to adjust it if necessary. We are also the people to call if you need a Membership card or a missed issue. For your future use, the toll free numbers are also listed on the masthead of Natural History magazine each month.

If you ever write us about a Membership problem, please include a daytime telephone number, so we can reach you if we need more information.

* Jane Goodall Lectures
The response to the June Goodall lectures was overwhelming, and both the May 12 and May 13 lectures are completely sold out.

I would like to thank the L.S.B. Leesey Foundation for their help in bringing Jane Goodall to the Museum. The Foundation is the sponsor for her United States tour and they also arranged for her to give an extra lecture at the Museum. The foundation supports a number of scientific projects connected with the study of human origins, behavior, and survival, including Dr. Goodall’s own research. If you would like additional information about the foundation, please write to L.S.B. Leesey Foundation, Foundation Center 13-83, Pasadena, California 91125.

Members’ Memo

To open the Museum’s Shakespeare Summerfest, Joseph Papp, producer of the New York Shakespeare Festival, will give a talk entitled Shakespeare’s World is Our World, on Wednesday, June 17, at 7:30 p.m. The Summerfest is being held to supplement the touring exhibition Shakespeare: The Globe and the World, which opens in Gallery 3 of the Museum on June 18. More information on the exhibition and the Summerfest will be included in the next issue of Rotunda.
Shakespeare: The Globe and the World

Featuring rare books, prints, costumes and other items of Shakespeareana from the unparalleled collection of the Shakespeare Folger Library, the exhibition brings to life the works of Shakespeare and the world of Elizabethan England. Visitors enter Shakespeare's world through a series of graphic environments, from rural Stratford-on-Avon to the Court of Elizabeth I. Among the treasures visitors will encounter are a panoramic view of London, engraved in 1625; Dr. Crot's portrait of Elizabeth; the Queen's personal Bible; early quartos of Shakespeare's plays; and Folger's famous Adamish Model of the Globe Theater. The historic highlight of the exhibition will undoubtedly be two editions of the 1623 First Folio of Shakespeare's works.

Shakespeare: The Globe and the World has been made possible by grants from the National Endowment for the Humanities, Metropolitan Life Insurance Company, Exxon Corporation, and the Corporation for Public Broadcasting.

Refreshments
Partake of ale, wine, and cider at a cash bar in the Hall of Ocean Life.

Entertainment
The Potter's Field Theater Company will provide the evenings' entertainment with Renaissance singers, dancers, musicians, and players performing skits from Shakespeare plays.

I would like to attend the reception for Shakespeare: The Globe and the World. Please indicate a first and second choice (if possible).

Thursday, June 18, 1981 from 6:00 p.m. to 9:00 p.m.
Tuesday, July 28, 1981 from 6:00 p.m. to 9:00 p.m.

Number of people:

Name:

Address:

City: [ ] State: [ ] Zip:

Daytime phone:

Please mail with a self addressed, stamped envelope to Shakespeare Reception, Membership Office, American Museum of Natural History, Central Park West at 79th Street, New York, NY. 10024.

The Arthur Ross Hall of Meteorites

Members will have a private viewing of the new home of our magnificent meteorite collection. The new hall features the 31-ton Ahnighito meteorite, moon rocks, and exhibits about the origins and significance of meteorites. (For a more detailed description of the hall, see the article on page 1.)

Bringing Back Ahnighito and A New Look at the Old Moon.

6:00, 7:00, and 8:00 p.m. Auditorium.

Kate Bennett Mendel will begin the Auditorium program with a short talk on how Ahnighito was brought to the Museum. Using photographs from the Museum archives, she will describe how Ahnighito was carted across the Arctic tundra and loaded on a ship, its arrival in New York and its trip via horse-drawn wagons through the streets of New York to its final destination at the Museum.

The program will continue with NASA's 1980 film, A New Look at the Old Moon. The Apollo Lunar Landing missions revolutionized scientists' ideas about the history of the earth, the moon, and our solar system. The film uses NASA footage to describe the lunar investigations and to simulate possible cosmic events that illustrate the new theories scientists have developed about the moon in the past decade. At the end of the film, Martin Paris, Chairman of the Museum's Department of Mineral Sciences, will answer any questions the audience may have about meteorites and planetology.

Refreshments
Free coffee, tea and punch will be served in the Hall of Northwest Coast Indians throughout the evening.

The Astronomy Computer

Members are welcome to ask the Hayden Planetarium's "Astronomy Computer," a unique mechanical creation, any question they may have about space and astronomy.

Admission

The reception is free but open only to Participating Donor and Elected Members of the Museum. Your Membership Card is your ticket of admission. Free parking will be available to the capacity of the Museum Parking Lot. Please use either the Parking Lot entrance or the Lower Level Central Park West entrance.
Graduation, by Leaps and Bounds
Sunday, May 10, 2:00 p.m., Auditorium

Four years ago a talented group of students joined the class of 1981 at the High School of Performing Arts. Graduating this spring, they will present a preview of their final dance concerts at the Museum, performing classical ballet and modern dance to the music of Dvorak, Gershwin and Scott Joplin. There will also be selections from There Are Dreams, a modern work inspired by Dr. Martin Luther King, Jr., set to a piece of original music. The High School of Performing Arts, which recently gained widespread recognition in the movie Fame, was founded in 1948 to encourage creative arts in gifted students. This is the third year they have performed at the Museum. The performance will be in the Auditorium and is free to all Museum visitors.

Arabian Artifacts
Saturday, May 9, and Wednesday, May 13
Outside of the Planetarium

A collection of Saudi Arabian artifacts will be displayed on the second floor of the Roosevelt Rotunda beginning May 19. The focus of the exhibit will be a Bedouin tent filled with daily objects representing the life of these nomadic people. In addition, Saudi Arabian cultural development will be traced with pottery, glass, bronze objects, jewelry, and costumes, while a photo essay displays life as it is today. The exhibit was compiled by the Saudi Arabian Ministry of Education, Department of Antiquities and Museums. Intended to supplement the Saudi Arabian sections of the Gardner D. Stout Hall of Asian Peoples, the exhibit is free to all Museum visitors.

Cosmic Conventions
Saturday, May 9

Saturday, May 9 is National Astronomy Day, and amateur astronomers from all over the New York City area will make their way to the Hayden Planetarium. Here, weather permitting, the Amateur Astronomers Association will set up telescopes for direct solar observation and evening stargazing. Special filters will be used during the day to allow viewers to see solar flares and sunspots. Also, as the sun goes down Wednesday, May 13, amateur astronomers will again convene for one of the Association’s monthly Star Parties. While no one can guarantee a cloudless night, those who attend will find themselves able to see through the opaque New York City air with the help of telescopes, many of them made in the Optical Division of the Amateur Astronomers Association. These will be set up to observe planets, stars, nebulae, and the like. Dr. Fred Hess, an instructor at the Hayden Planetarium, will be on hand to answer questions.

The Party is free to all who attend. A voluntary donation booth will be available. For more information please send a self-addressed, stamped envelope to the Optical Division, Amateur Astronomers Association, American Museum-Hayden Planetarium, 81st Street and Central Park West, New York, NY 10024.
The 6¼ by 8-foot dugout canoe on display in the 77th Street layer is so big that few people realize it was fashioned from a single tree. It was acquired for the Museum in 1882 by Israel W. Powell, the Indian Commissioner of British Columbia, whom the Museum commissioned to collect "a complete series of ethnological specimens of the region." Anthropologists of that period had noted that the cultures of the Northwest Coast Indians were in a state of decline, and Museum leaders recognized that if they did not collect material soon, the opportunity would be lost forever. Powell, over the course of three years, collected more than 790 artifacts, including the canoe, which he bought from the Indians living in the area of the Skeena River. Because travel was almost entirely by water, the canoe technology of the Northwest Coast cultures was highly developed. Canoes varied in size from the eight-foot one-man canoe to the great 70-foot-long ocean-going vessels, capable of carrying fifty or sixty people. All were created by hollowing out the center and adding the sides of a single cedar log. Water was placed inside and heated with hot rocks, and when the cedar had become soft, the sides were pressed out and held by ropes. It was in this way that the Museum's canoe got its width of 8 feet, although the original diameter of the tree was less.

The finished canoe was painted black and the bow decorated with a carved owl and a painted killer whale. In their mythology, killer whales are the most respected of all living things, being the strongest hunters. The painting on the stern depicts a raven, the Indians' mythological character who had an essential role in the creation of the earth and all other aspects of importance. As a common, sociable bird of the Pacific shore, it is imbued with mythological attributes arising in part from its voracious appetite and its cleverness in achieving desired ends.

Alan Wardwell, writing about the canoe in 1978, noted it was "the largest, best preserved, most beautifully made and painted canoe in any collection."

After Powell bought it, Hardy villagers paddled the new canoe more than 500 miles down the Pacific Coast of Canada to the port of Victoria. Since he was fearful that during its long journey to San Francisco it would be "exposed to the action of the sun and spilt," Powell had it reinforced with ribs. It was loaded in a schooner, but early on the journey, in spite of all precautions, a wave crashed on the canoe's hull and cracked it. James Terry, the archelogist hired to facilitate its transport, had the canoe unloaded and kept at Puget Sound until a suitable iron vessel arrived that could safely take it to San Francisco.

Henry Bishop, a New York businessman who was financing the Northwest Coast collecting, got a free ride for the canoe to New York via the Isthmus of Panama. In San Francisco it was firmly bolted to a wooden saddle so it could be handled by block and tackle. It was then put on the deck of a steamer and taken to Panama.

The Isthmus had to be crossed by train, but loading the canoe posed a problem. Because of its length, two railroad cars were required to hold it. The sharp turns in the tracks, however, made this impossible. The solution was to fasten the bow of the canoe to the front car and to permit the stem to swing loosely on a metal plate on the rear car.

It travelled again by steamer to New York, and then upriver by flatboat. For the next twenty-five years, the canoe hung from the ceiling of the Northwest Coast Indian Hall, while the Museum continued to build its collection of Northwest Coast artifacts, and to periodically upgrade the materials displayed in the cases. Elsewhere in the Museum, President Morris K. Jesup was urging the creation of exhibitions that would excite greater public attention. Natural surroundings for the prepared animal exhibits were made with progressive sophistication, and the dinosaur bones were taken out of the drawers and linked together to stand in lifelike poses.

Finally, in 1910, the canoe benefited from this exhibition policy. Museum Director Harry H. Wardwell conceived of the idea of using the canoe in an "open-air theater" exhibit. George Emerson, who had specialized in collecting artifacts from the Northwest Coast, was sure that the canoe could be used to tell the story of a chief and commemorate a lost village. It was a perfect opportunity to feature the best of the collection by showing people of different rank in the highly stratified society.

The Hercules task of turning concept into reality was given to sculptor Neandross. He prepared a sketch-model in clay of forty Indians arriving at the ceremony. The canoe, having reached the beach, would be held in position by the paddlers while speeches were rehearsed. Two lumbermen would steady the canoe. Neandross used them quite cleverly to help balance the entire exhibit.

With his model accepted, Neandross began to sculpt the figures, portraying the Indians in "physique, gait and action." Existing methods of plaster cast mold-making proved less than satisfactory when working with live humans; the weight of the plaster altered the shape of the subjects. Through experimentation, Neandross and his crew found that a ¾-inch layer of paraffin, applied to the body prior to the plaster work, provided enough additional support to mold perfect casts.

In order to protect the Museum's priceless artifacts from deterioration in this open-air exhibit, all adornments—masks, rattles, and even the smallest ivory ornaments—were faithfully reproduced to the most minute detail. This insured accuracy of information even though all pieces were replicas.

The skins and woven clothing were copied in bustup, then dipped in glue-water before being draped on the figures. The garments were allowed to stiffen with a natural arrangement of folds. A thin layer of plaster and glue made each piece of clothing ready for painting and completion.

When completed, the exhibit contained only half of the planned figures, but achieved the desired effect. Commenting about the attained exhibition goals in the American Museum Journal, editor Mary Cynthia Dickerson proclaimed that, "The ideal of exhibition in a people's museum must be accuracy and completeness in truth. Bumpage蒙台努斯—beauty, life, and action that there is produced a resultant of historical interest and education force."

The canoe stood in the center of the hall until 1960 when it was moved to its present central position in the 77th Street layer.

—Kate Bennett Mendez
Sidney Hoenestein's Fossils of Fifth Avenue tour, on Sunday, June 7, begins with a look at 450-year-old shark teeth, as well as many smaller ones and assorted moon rocks. (See articles page 1 and page 5.)

The Gardner D. Stout Hall of Australopithecines contains three thousand works of art and artifacts, on display in both chronological and ethnological order.


Gossamer Albatross. (Norfolk Schwab, second floor.) Through May 31. An exhibit on the struggle to achieve control over the light, including the Gossamer Albatross, which flew across the English Channel in June of 1979.


Programs and Tours

People Center. Ethnographic programs featuring dancing, music, films, lectures, and workshops are presented in the People Center weekends from 1:00 to 4:30 p.m. Refer to the full-page calendar for specific events.

Natural Science Center: The Center introduces young people to the varied wildlife, plants, and rocks of New York City. Some exhibits include live animals. The Center is open Tuesday through Friday, 2:00 to 4:30 p.m., and weekends from 1:00 to 4:30 p.m.

Discovery Room. Children are delighted to touch and handle natural history specimens. In the new “discovery boxes,” visitors can look at many different animals and artifacts. Free tickets are distributed on a first-come, first-served basis at the first floor Information Desk. The room is open only on weekends from 12:00 to 3:30 p.m.

Museum Highlights. Tours of the new Museum visitor as well as the veteran Museum goer, the Museum Highlights Tour offers fascinating glimpses into the history and exhibits of the Museum’s most popular halls. The tours leave regularly from the second-floor Information Desk. If you wish to join a free tour, please ask at the information desks for specific tour times.

Discovery Tours. The Museum offers exciting and unusual tours of exotic lands in company with Museum scientists, archaeologists, anthropologists, historians, and natural historians. For more information about tours and itineraries, write to Discoveries Tours at the Museum or call 877-1440.

Planetarium Events

The Drama of the Universe. This sky show at the Hayden Planetarium presents some of the most recent facts, theories, and astronomical discoveries. In addition, this series of short ‘acts’ will explore astronomical phenomena such as the stars of the season, comets, and meteor showers.

Sky show times: Weekdays 1:30 and 3:30 p.m. Weekends: hourly, 1:00 through 5:00 p.m. Admission for Participating Diners: $20.00 for adults, $1.00 for children. For non-member prices, please call 877-8828.

Lasers and Cosmic Laser Concerts Under the Stars. For information about time of performance and ticket prices, call 724-1700. Participating Diners: $20.00, and Eligible Members receive a 25 percent discount on ticket prices.

Stars of the Season. Wednesday evenings at 7:30 p.m. and Saturday mornings at 11:00 a.m. Explore the solar system and learn about the very latest discoveries at this live sky show.

Photographs of the Sun by Edwin Hubble. An amateur photographer’s astronomical work with Hubble telescopes. On display on the first floor of the Planetarium, May 1 through June 26.

Visions of Antiquity

Mondays, May 4, 11, 18 Auditorium. 7:00 p.m.

The American premiere of The Plunderers, a BBC/Time-Life documentary on black market archaeology, will be part of a film series entitled Visions of Antiquity. Light and line. The program will be presented on three Monday evenings in May by the New York Society of the Archaeological Institute of America. Full-length color films are projected on a screen, followed by informal discussions with invited guests.

The Plunderers, which will be shown Part I on May 4 and Part II on May 11, investigates the illegal digging and marketing of finds in Turkey and Italy. Included is one of the world’s most celebrated “hot-pots,” the Ephesus, Venus, bought by the Metropolitan Museum of Art for more than a million dollars. The destruction of the Emus tomb and many of the Egyptian temples and graves in the Valley of Kings and Nobles is also documented.

On Monday, May 18, the Royal Archives of Edo will be shown, presenting an overview of the recent scientific excavations in Syria. More than 17,000 clay tablets have been unearthed, with biblical sounding names that have aroused not only great interest but controversy. Tickets for the series will cost $18.00 ($12.00 for Members). Please make check payable to Museum. Effecting tickets will be sold. For information please call the New York Society of the Archaeological Institute of America at (212) 352-0918.

Poetic Traditions

Wednesdays, May 6 and 20. People Center. 7:00 p.m.

Poetry is a strong but undervalued means of learning about different cultures. This month the poetry of the Nuer, who live in southern Sudan, and the Eskimo, will be voiced in two programs entitled Versions of the Traditions.

On May 6, Terese Sypodka will read selections from her translations of Nuer poetry. She is currently a co-Producer at the Translation Center at Columbia University. Her 5-film series on oral literature around the world, and her translations of Nuer poetry have appeared in Anthurium and Translation.

On May 20, Richard Lewis, educator, writer and theater director, will read translations of Eskimo poetry. He has published numerous books of poetry, including Out of the Earth and I Breathe a New Song: Poems of the Eskimo. He is also the Director of the Far Eastern Center in New York City.

Both programs are free to all Museum visitors.
The moon is more than 200,000 miles from the earth. Even at that distance, many features of the moon can be seen with a good pair of binoculars. The three easiest moon features to see from the earth are mare, craters, and rays.

Mare: As you look at the moon from the earth, the first thing you will notice is that the moon is divided into bright and dark areas. The bright areas are mountains and craters, and the dark areas are plains or maria. (Mare is the Latin word for sea.) Mare are the largest lunar features. They were formed when the moon was very young. It is believed that meteorites hit the moon, forming huge craters, and that these craters were then filled by lava flows.

Crater: There are over 30,000 craters on the near side of the moon. Two of the easiest to see are Kepler and Copernicus (see photo). Each crater is more than fifty miles across, and their walls are eight times taller than the Empire State building. Scientists believe that while some craters on the moon may be volcanic in origin, most were formed by meteorites.

Rays: The bright streaks that radiate from some craters are called rays. These rays can be hundreds of miles long. When a crater is formed, rocks and other materials are thrown out of it. Scientists think that the rays were formed by some of this ejected material.

You may be surprised to learn that the best time to look at the moon is not during a full moon, but during the First Quarter (half moon) and Last Quarter (half moon). During a full moon, the sun falls directly on the moon's landscape and there are no shadows to help distinguish different features. In May, the half moons will appear on May 10 and May 26. In June, they will appear on June 9 and June 24. The best time to see the rays, however, is during a full moon.

Visit the new Arthur Ross Hall of Meteorites to learn more about the moon. There, you will see different types of moon rocks, learn how craters are formed, and what meteorites can tell us about the origins of the moon, the earth and other planets. Also visit the Hayden Planetarium and see their exhibits on the sun, astronomy, and the planets. The present play show is The Drama of the Universe, which presents some of the most recent facts, theories, and discoveries about the universe.
**Shakespeare**

Talks, demonstrations and films relating to the works of the Bard — including a lecture by Tom Stoppard — make up a Shakespeare Summerfest to be held at the Museum and nearby locations.

**Page 6**

The Elizabethan world, with all its quips and fancies, takes the stage in Shakespeare's England, Act II, Scene iv. Pages 4 and 5

**Australian Aborigines**

The dance, music and crafts of the Aborigines are the focus of a United States tour by the Aboriginal Artists of Australia.

**Page 3**

**Galapagos**

Photographer Tai Du Roy Moore, having lived in the Galapagos most of her life, offers her view of the Islands in her slide presentation, Galapagos: Almost Eden.

**Page 2**

**Members' Reception**

Members are invited to a special reception with a private viewing of the exhibition Shakespeare: The Globe and the World. Thursday, June 18 has been filled, but a limited number of spaces remain for Tuesday, July 28. For more information please call (212) 873-1327.

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**Shakespeare: The Globe and the World**

**Gallery 3, June 18 — September 20**

Shakespeare, like no other writer in history, immortalized his time period through his writing. A collection of Shakespeareana provides a thorough look at the people of Elizabethan England, with all of their concerns and problems. Nowhere is his outlook more apparent than in the extensive collection from the Folger Shakespeare Library in Washington DC. This collection, being shown for the first time outside the walls of the Folger Library, is touring the country and will open Thursday, June 18, in Gallery 3.

**Shakespeare: The Globe and the World** is designed to bring to life the works of William Shakespeare and the world of Elizabethan England. The visitor will enter Shakespeare's world through a series of graphic environments: rural Stratford, the marketplace of Elizabethan London, the bookstalls of St. Paul's, the Bankside theatre district, and the court of Elizabeth I.

The historical highlight of the show is the 1623 First Folio, the first collected edition of all but one of Shakespeare's plays. Two Folios are displayed in the exhibition: the famous Presentation Copy from the printer William Jaggard to his patron Augustine Vincent, and the Warwick Castle Folio, one of the finest in existence.

Six mini-theatres will screen film and video clips of famous modern interpretations of six plays. The renowned Adams model of the Globe Theatre will be on display, providing a setting for presentations by guide lecturers. In addition, strolling players will add color to the exhibition, the Museum, and areas around town.

The exhibition, made possible by grants from the National Endowment for the Humanities, Metropolitan Life Insurance Company, Exxon Corporation, and the Corporation for Public Broadcasting, will be free to all Museum visitors.

For more information on the Shakespeare exhibition, please see pages 4-6.
Galapagos: Almost Eden
Wednesday, July 22, 7:00 p.m., Auditorium

Tui De Roy Moore, a photographer who grew up in the Galapagos Islands, will give a slide presentation entitled "Galapagos: Almost Eden." For years, scientists, photographers and tourists alike have found the Galapagos to be a magical paradise and an endless source of discovery. Tui De Roy Moore's family moved to the islands when she was two, and she grew up there taking an early interest in photography.

Living in the Galapagos afforded her the opportunity to explore the natural surroundings in greater depth and detail than any other photographer. Not limited by time constraints, she has been able to record sea lions in battle, scuba divers in comptigraphy, and the flowering of endemic plants nearly seen by tourists. Her first book, Galapagos: Islands Lost in Time, with an introduction by nature writer Peter Matthiessen, was published in 1980.

The program is free to all Museum visitors. Seating will be on a first-come, first-served basis.

Tales for a Summer Evening
Wednesday, July 29, 5:30-7:30 p.m.

Stories, myths and tales of several cultures will be presented on Wednesdays evening of storytelling at the Museum. Halls of Asian, African, and Native American peoples will serve as the setting for storytellers who will draw upon the oral traditions of these cultures. There will be several concurrent narrations in the different halls, for which a schedule will be available. Louise Stimson will move through the Hall of Asian Peoples telling stories from several of the represented cultures. She will be accompanied by Steven Gorn playing on a bamboo flute. Rosebud Yellow Robe will present the stories of the Lakota Sioux in the Hall of Plains Indians, and Pamela Patrice will use the Hall of Man in Africa to tell creation stories, tales of wisdom, and a "dilemma tale" that requires the audience to provide the ending.

The program is free to all Museum visitors. For more information call (212) 973-1300, ext. 559 or 566.
Aboriginal Artists
See box below for details

The Australian Aborigines have lived throughout Australia for 40,000 years. It is believed that they arrived in Australia from Southeast Asia via Indonesia. Since that time, they have evolved into diverse cultures with a rich heritage of art, music, dance, and an oral tradition of stories and myths. This July, New Yorkers will have a unique opportunity to experience the ancient culture of the Australian Aborigines. A troupe of 26 dancers, musicians, and craftsmen from four communities in Northern and Central Australia will appear in New York as part of a United States tour by the Aboriginal Artists of Australia. Please see box for the schedule of events. The festival is sponsored by the Mobil Oil Corporation, National Endowment for the Arts, and the Government of Australia. It is presented by Los Angeles Dance Festival/Oneteo Dance Foundation.

Aboriginal Artists of Australia: Schedule of Events

Wednesday, July 22, 6:00 p.m. Aboriginal Artists in Performance. Central Park East Meadow (just inside the Fifth Avenue and 99th Street Entrance). Free.

Thursday, July 23, 6:30 p.m. Aboriginal Artists in Performance: Creative Time Inc., Art on the Beach series, Land fill (near 819 at Chambers and West Street). Free.

Thursday, July 23, 8:00 p.m. The Land and The Dreaming—Aboriginal Mythology. Lecture with Lance Bennett. The C.G. Jung Foundation, 29 East 59th Street. Admission: $10.00 ($7.00 for Foundation Members and students). Call (212) 697-6430 for ticket information.

Friday, July 24, 7:30 p.m. Aboriginal Life: A Film Retrospective, with Ian Dunlop. American Museum of Natural History, $1.50 for Members. $3.50 for non-members. See coupon this page.

The First Australians
Friday, July 24, 7:30 p.m., Auditorium

A special Members’ program, Aboriginal Life: A Film Retrospective, will be held in conjunction with the tour by the Aboriginal Artists of Australia. The noted ethnographic filmmaker, Ian Dunlop, will introduce and narrate the program. He will present a retrospective look at ethnographic filmmaking in Australia from 1898 to the present. The program will include some of the earliest visual materials ever taken of the Australian Aborigines.

Members will also present excerpts from his own films, Desert People and People of Western Australia. Both films were shot in the remote deserts of Australia and provide many rare glimpses of their first look at how the Aborigines have survived in one of the world's harshest environments.

At the end of the program, Mr. Dunlop and some of the members of the Aboriginal groups will answer questions from the audience.

Tickets are $1.50 for Members, $3.50 for non-members. To order tickets please use the adjacent coupon.

I would like to order tickets to Aboriginal Life: A Film Retrospective. Participating, Associate Members may purchase up to four tickets at the Member's Price of $1.50 per ticket. All other tickets are $3.50.

Members' tickets at $1.50 each
Non-member tickets at $3.50 each

Total payment enclosed:

Name:
Address:
City: State: Zip

Daytime phone: Membership Category

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

Ticketing Policy: All ticket requests received before June 30, 1981 will be treated on an equal basis. Tickets will be mailed out by July 6. After June 30, 1981, please call (212) 769-5700 to check availability.
Science and Medicine

Is it not strange that sheep’s guts should
dew out, such of men’s bodies?
— Much Ado About Nothing

Shakespeare lived in a time when two of the noble sciences were alchemy, the dressing of people’s diseases through observation of the heavens; and chemistry, the quest for a chemical transmutation of baser metals to gold. Superstitions prevailed in this period and guided people in their daily lives, and evil was envisioned in tangible forms such as witches and devils. In addition, people believed that the more exotic a plant or an animal, the greater its medicinal uses.

There are also medical patents in canon, for by reason two is of a box and death imprisonment; as a man infected with poxsey be put into the warm belly of a simmer newly slain, it loosens the power of the poppy, and giveth strength to the natural parts of the body. The fat taken out of the broth [corroborate] and perfumed, cureth the Hernia, and the bladder dryed and drunk with water, helpeth the fall and erod. The gall, if it be to the eye and bowels, and in three times of the last bony, it causeth the syrup of the eyes and yeas and the flesh that groweth in them; and if the bowl of a Cannet be wound together like a string, and set in the left arm (Plain afternoons) they shall deliver one from a quantum Ague (insomnia).

Yet this period also saw the rebirth of scientific reasoning. Questions that broke into the sanctuary of religious belief reared with greater frequency, and greater men struggled to teach their new disciplines to unwilling minds.

Just twenty-one years before Shakespeare’s birth, Nicolaus Copernicus published his treatise on the Revolution of the Heavenly Spheres (1543). In attempting to safeguard the Ptolemaic solar system of circular orbits, he moved the focus of the universe from the earth to the sun. This simplified the overly complicated Ptolemaic system, but disturbed the notion that the universe revolved around mankind. His ideas met with considerable resistance for several generations.

Galileo Galilei, born the same year as Shakespeare (1564), was instrumental in the gradual acceptance of the Copernican theories. His observations with the telescope supported Copernicus’ views. His other experiments loosened the foundations of many great misconceptions, particularly concerning the physical laws of nature. Copernicus helped ready the world for change. Yet even he was slapped down by the church when he stepped too hard on theological toes.

In the same year that Shakespeare died (1616), William Harvey announced his momentous discovery of the circulation of the blood. Previously physicians believed that blood simply leaked back and forth in the body. Harvey proved that the heart regulated flow in one direction, and that the veins had valved chambers allowing movement in that direction only.

Twenty-six years later, in the year that Galileo died (1642), Isaac Newton was born. His experience with a simple apple to see it come down Adam and Eve’s importance. This, of course, was his discovery of the laws of gravity.

The New World

Be not afraid: the tide is full of noises.
Rounds and sweet airs, that give delight, and hurt not.
— The Tempest

We live today in a generation that watched the earth rise over the moon on our television sets. We have not only the limbs but also the excitement that accompanied the discovery of the New World. Send Rodrigue, Cadet, or Drake to the Americas or to circumnavigate the globe was the dream of the world. In the year 1492, Columbus sailed to a new world.

Shakespeare was born in 1564. He lived in a time when drugs were used to dull pain, and tonics were used to revive the sick. He lived in a time when the Elizabethan age had ended, and the Jacobean age had begun.

The Elizabethan age was a time of great discovery. The world was a place of wonder, and the Elizabethans were full of wonder. They were a people of wonder. They were a people of curiosity. They were a people of discovery.

The Elizabethans were a people of wonder. They were a people of curiosity. They were a people of discovery. They were a people of imagination.

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The Elizabethans were a people of wonder. They were a people of curiosity. They were a people of discovery. They were a people of imagination.
Embroidery, in fact, was a man's trade with a guild of its own. Young girls' samplers did not appear until the end of Shakespeare's lifetime.

Sports were competitive, often violent. There were few rules in football (soccer), a minimum of penalized fouls, no real boundaries, and usually not even a set goal. Whole towns and villages challenged one another. Some realities became annual occurrences that continue to this day.

One sport was known as knappen (a Welsh word meaning "to knock"). It was played with a ball that just fit into one's hand. The ball was made slippery with tallow and put in the middle of a field halfway between two competing towns. The players, with scarcely trimmed hair and beards, would play stripped to the waist and usually barefoot. Some, however, would ride horses pole-style, carrying cudgels three- and a half-feet long. The object of the game was simply to plant the ball within one's own village. The fields could extend for several miles and up to two thousand players might take part.

Injuries are not well documented, although broken heads and broken necks were fairly commonplace.

A writer known as Honest William wrote a lord of the time,

Was much delighted to hear that his lordship recently visited the bear garden—The time may hear the baying of men, the barking of dogs, the grunting of the bears, and the bellowing of the bulls, mixed in a wild but natural harmony. This appears to the writer a picture of the world, for "all the world is but a bear-baiting."

Not all viewed the baiting as one of the cultural heights of the period, however. Particular objections were made to the crowd at a bear-baiting;

The swelling Rooser, the grunting Chester, the rotten Bas-lod, the sweating Duchard, and the bloody Butcher have their Rendezvous here, and are at chivalry place and respect. There are as many civil religious men here, as there are Saints in Hell.

Music

I have a reasonable good ear in music let
Us have the longs and the breve.

— A Midsummer Night's Dream

As ugly as some entertainment got, Shakespeare's lifetime was also one of the greatest musical ages in English history. Not only were composers enjoying great success, but music was considered as much a part of life as rabbit pie. Every educated person could play an instrument or carry their part in a song. No social occasion was without music. Nobles routinely kept musicians on their household staff, usually as a small orchestra to play during meals from the minstrel gallery above the dining room, and to provide music for the larger occasions.

Barbershops kept a rack of musical instruments instead of magazines for their waiting customers.

Sir Francis Drake, in order to impress the people of the world with the greatness of England, had a small but good orchestra included in the crew of his ship, the Golden Hind. They added majesty to disembarkations, to meadings with foreign captains or chiefs, and to flag planting ceremonies in the New World.

This may not have been so strange an idea after all. The inhabitants of the New World were captivated by the Elizabethan music.

We had a youth in our company that could play upon a gittern [a wire-strung instrument similar to a gittern] in whose homely music the [Italian] toook great delight and would give him many things, as tobacco, tobacco-pipes, sugar's shanks of da foot long which they use for gittles, lavishes' saks and such-like. And danced twenty in a ring, and the gittern in the midst of them, using many savage gestures, stringing Jo, Jo, Jo, Jo, Jo, Jo, Jo, Jo, Jo, Jo, Jo, that first broke the ring the rest would knock and out upon.

Common instruments were the vihginal (a small forerunner of the piano that was portable and could be placed on any table); the viol, lute and gittern; the recorder, flute, pipes and other wind instruments; the organ, the hautboy (oboe), the sack but (trombone), the trumpet, and the drum.

Costume

I think he bought his doublet in Italy, his round hose in France, his bonnet in Germany, and his behavior everywhere.

— The Merchant of Venice

Fashion was strongly influenced by trade with the East and the discovery of the New World. The influx of silks and cottons from Asia, fun from America, as well as valuable babbles and statoons, contributed to extraordinary crowns and lavish displays of wealth.

The characteristic feature of dress, both male and female, was the ruff, an elaborate piece of neckwear. It varied in size and design — sometimes standing straight up from the shoulders like a sculpted niche, sometimes extending out like a plate. It was usually stiffened with starch, and had a matching pair of sleeve cuffs. Late in Shakespeare's life, the ruff was gradually replaced by various types of falling bands or collars — evidence that the Puritan movement toward simplicity was gathering momentum.

Male costume was for the most part form-fitting. The lines of the body were closely followed, allowing for a freedom of movement. The standard upper garment was the doublet, made of rich imported material, often lavishly embroidered and slashed to reveal the contrasting color and fabric of the lining.

During Shakespeare's time men of fashion tended toward a peasanq doublet, which projected above the abdomen and down into the groin. The breeches and hose varied widely, and were often stuffed to fantastic proportions.

The dress for the Elizabethan lady, on the other hand, was not form-fitting in the least. It was stiff and stately, difficult to maneuver, with a tight bodice and an enormous farthingale (a word which referred to hoops of supporting structure, but was used to mean an entire hoop skirt garment). The farthingale was the outstanding fashion of the period. The early Spanish variety was plain and conical. The more common French type extended outward at the hips. For ease in sitting, some (but not all) were pulled out only at the sides.

The upper garment was often lengthened in front and drawn in extremely tight to make the waist look long and slender. Mantled women were full buxom, modestly open ruffs and low necklines. Breasts, no matter what their size, were forced up and out to look like a pigeon's breast. Padded sleeves frequently added contrast to the wisp-like waist.

Rich jewels, elaborate hairdresses (the Pompadour, stacking the hair on the head like a bee's nest), came into fashion at this time, dianty shoes, and expensive gloves completed the costume.

Height was also considered a sign of great beauty. For this reason it became fashionable to wear tall platform shoes — often as high as twelve inches — underneath long flowing gowns and cloaks.

A woman who appeared long, slender and lovely — with the waist of a wasp and the breast of a pigeon, bedecked in thirty pounds of jewels and clothing — might not live to a ripe old age, but was an object of envy and model dress for all.

— Stanton G. Omer
The Shakespeare Summerfest, to supplement the exhibition Shakespeare and the World, offers a variety of talks, demonstrations, and films on subjects related to the works of the Bard. Note that some events will be held outside of the Museum. For information on specific programs call the Summerfest at (212) 873-1300, ext. 227.

The Shakespeare Summerfest has been made possible with support from the National Endowment for the Humanities.

Shakespeare and the World Events
Saturday, June 20, 1:00 p.m. — Shakespeare and the Afro-American Community. Talks with staged readings from Othello. Museum Auditorium. Free.

Saturday, July 11, 1:00 p.m. — Shakespeare in the Hispanic World. Talks with dramatizations in Spanish and English. Museum People Center. Free.

Saturday, July 18, 1:00 p.m. — The Greeks Meet the Elizabethan: A bilingual program. Museum People Center. Free.

Saturday, July 25, 1:00 p.m. — Shakespeare's Germany: Excerpts from plays. Poetry and Music Museum People Center. Free.

Saturday, August 1, 1:00 p.m. — Shakespeare in Japan. Talks with readings and a showing of Throne of Blood (1957, Japan), produced, directed, and screenplay by Akira Kurosawa. Museum People Center. Free.

Saturday, August 8, 1:00 p.m. — Shakespeare and the Amherst Theatre. Talks with readings and dramatizations in two languages. Museum People Center. Free.

Shakespearean Theatre and Culture Talks
Wednesday, June 17, 7:30 p.m. — Shakespeare’s World is Our World. Talk by Tom Stoppard. Auditorium. Free.

Wednesday, July 22, 7:00 p.m. — Danzas de un Invierno’s Night, with Bhala Jones and Roberto Garcia. Selected Sixteenth Century dances connected by quotations from dance manuals and other treatises of the period. Audience participation will be invited. Museum Education Hall. Free.

Wednesday, July 22, 7:00 p.m. — Seminar on the second floor Information desk starting at 5:15 p.m.

Sunday, June 21, 1:00 and 3:00 p.m. — Lear’s Shadow. Scenes from King Lear performed by the Post Theatre Company, with a talk by Stefan Rudnicki. Museum People Center. Free.

Monday, June 22, 7:30 p.m. — Acting Shakespeare. Talk by Bertram Josephson, with readings by Carole Shelley and Barry Boyd. Museum Auditorium. Free. (Use lower level Central Park West entrance.)

Saturday, June 27, 3:00 p.m. — Lecture/Demonstration in Potter’s Field Acting Technique. Featuring Michael Morley and members of the Potter’s Field Theatre Company. New Jersey Shakespeare Festival, Madison, NJ. Bowman Theatre. Free.

Wednesday, July 8, 4:30 p.m. — Shakespeare's Histories. Talk by Charles A. Halff. American Shakespeare Theatre, Stratford, CT. Free.

Saturday, July 11, 3:00 p.m. — Violence in Shakespeare. Talk with demonstration by Paul Barry and members of the New Jersey Shakespeare Festival Company. New Jersey Shakespeare Festival, Madison, NJ. Bowman Theatre. Free.


Saturday, July 15, 7:00 p.m. — A Lover and His Lane: Dances from Shakespeare’s Time, with Bhala Jones and the Ananda Dancers. Dance based on Sixteenth Century dance manuals. Audience participation will be invited. Museum Education Hall. Free.

Tuesday, July 22, 7:00 p.m. — Donnas for a Winter’s Night, with Bhala Jones and Roberto Garcia. Selected Sixteenth Century dances connected by quotations from dance manuals and other treatises of the period. Audience participation will be invited. Museum Education Hall. Free.

Wednesday, September 2, 4:30 p.m. — Othello and Mutueller's Malignity. Talk by Edward W. Taylor. American Shakespeare Theatre, Stratford, CT. Free.

Wednesday, September 2, 7:00 p.m. — Shakespearean Weaponry and Dueling. Talk with demonstration by Steven Andreason and Gary A. Manbio. Museum Education Hall. Free.

Thursdays, September 3, 8:00 p.m. — Shakespeare: The Literate Actor. Talk by Bernard Chapman. Hunter College, CUNY. Hunter Playhouse. Free.

Thursday, September 10, 8:00 p.m. — "In Sweet Music is Such a Man" in Shakespeare’s Plays. Talk with demonstration, Russell Osborn, and Catherine M. Hildreth. Hunter College, CUNY. Hunter Playhouse. Free.

Tuesday, September 15, 6:00 p.m. — Acting Shakespeare. A talk by Samuel Schoenbaum (author of Shakespeare: The Glove and the Othello World). Hunter College, CUNY. Hunter Playhouse. Free.

Shakespearean Film Series
Thursday, July 2, 1:30 and 6:00 p.m. — Henry V (1944, Great Britain). Produced, directed by and starring Laurence Olivier. Fordham University at Lincoln Center, Pope Auditorium. Free.

Thursday, July 9, 1:30 and 6:00 p.m. — Romeo and Juliet (1968, Great Britain). Directed by Franco Zeffirelli. Fordham University at Lincoln Center, Pope Auditorium. Free.

Thursday, July 16, 6:00 p.m. — Hamlet (1948, Great Britain). Produced, directed by and starring Laurence Olivier. Fordham University at Lincoln Center, Pope Auditorium. Free.

Thursday, July 23, 1:30 and 6:00 p.m. — A Midsummer Night's Dream (1935, USA). Directed by Max Reinhardt, starring James Cagney and Mickey Rooney. Fordham University at Lincoln Center, Pope Auditorium. Free.

Thursday, July 30, 1:30 and 6:00 p.m. — King Lear (1970, Great Britain/Essex). Directed by Peter Brook, starring Paul Scofield. Fordham University at Lincoln Center, Pope Auditorium. Free.

Thursday, August 6, 1:30 and 6:00 p.m. — The Tempest (1956, USSR). Directed by Sergei Yutkevich. Fordham University at Lincoln Center, Pope Auditorium. Free.

In addition to the Shakespeare Summerfest, a great number of Shakespearean activities are planned in the Tri-State area.

The Delacorte Theater plans two productions this summer — one of The Tempest with Raul Julia, and one of Henry V. For information call (212) 535-5630.

Columbia/Tribe will show the BBC/Time-Life series throughout the summer. For specific times consult your television listing.

For a complete listing of local Shakespearean activities call (212) 873-1300, ext. 227.
Special Exhibitions

The Arthur Ross Hall of Meteorites. The Museum's newest permanent exhibition hall, featuring Almahkto, the largest meteorite "in captivity," as well as many smaller ones and assorted moon rocks.

The Gardner D. Stout Hall of Asian Peoples. Contains over three thousand works of art and artifacts, on display to both chronological and ethnological order.


Traditional Beauty: Designs in Nature. June 25 through October 1 in Gallery 77. A sampling of Japanese patterns and stencils from the Tom and Frances Blokemone Collection. (See article page 2.)

Programs and Tours

People Center. Ethnic programs featuring dance, music, film, lectures, and workshops are presented in the People Center weekends from 1:00 to 4:30 p.m. Refer to the full-page calendar for specific events.

Natural Science Center. The Center introduces young people to the varied wildlife, plants, and rocks of New York City. Some exhibits include live animals. In June, the Center is open Tuesday through Friday, 2:00 to 4:30 p.m. and weekends from 1:00 to 6:30 p.m. In July and August, the Center is open Tuesday through Saturday, 10:30 a.m. to 12:30 p.m. and 1:30 to 4:30 p.m. Closed July 4, 1981.

Museum Highlights Tours. For the new Museum visitor as well as the veteran museum goer, the Museum Highlights Tours offer fascinating glimpses into the history and exhibits of the Museum's most popular halls. The tours leave regularly from the second floor Information Desk. If you wish to join a free tour, please ask at the Information Desk for specific tour times.

Discovery Tours. The Museum offers exciting and unusual tours of exotic lands in company with Museum scientists, anthropologists, historians, and natural historians. For more information about tours and itineraries, write to Discovery Tours at the Museum or call 873-1440.

Planetarium Events

The Drams of the Universe. This sky show at the Hayden Planetarium presents some of the most recent facts, theories, and astronomical discoveries. In addition, this series of short "acts" will explore astronomical phenomena such as the stars of the season, comets, and meteor showers.

Sky Show times:
Weekdays: 1:00 and 3:30 p.m.
Weekends: hourly, 1:00 through 4:00 p.m.

Admission for Participating, Donor, and Elective Members is $2.00 for adults, $1.00 for children. For non-member prices, please call 873-1828.

Cosmic Laser and Laser Concerts Under the Stars. For information about time of performances and ticket prices, call 724-8700. Participating, Donor, and Elective Members receive a 25 percent discount on ticket prices.

Stars of the Season. Wednesday evenings at 7:30 p.m. and Saturday mornings at 11:00 a.m. Explore the solar system and learn about the very latest discoveries at this five-sky show.

Museum Information

Museum Hours. Monday, Tuesday, Thursday, Friday, Saturday, Sunday and holidays: 10:00 a.m. to 4:45 p.m. Wednesday: 10:00 a.m. to 8:00 p.m.

Cafeteria Hours. Monday through Saturday: 11:00 a.m. to 9:15 p.m. Wednesday evenings: 3:30 to 7:00 p.m.

Museum Parking Lot. Located on 81st Street. Open Monday through Thursday: 9:30 a.m. to 9:30 p.m. Friday through Sunday: 9:30 a.m. to 12:30 p.m. Rates are $3.75 for cars, $5.00 for buses. Parking is limited.

Museum Research Stations. Members, students, and museums may visit the research stations. If you are planning a visit, write ahead for details.

Archibald Biological Station, Roger 21, Box 186, Lake Placid, Florida. 33852

Southwestern Research Station, Portal, Arizona. 85632

Call for Volunteers

Volunteers are needed to conduct a major survey of visitors in the Museum. Beginning in July, a random sampling of visitors will be given a questionnaire to complete, asking information about who they are, their expectations upon entering the Museum, and their reactions on leaving.

Results of the survey will be used to evaluate current directions in programming and exhibitions, and the adequacy of facilities.

As a result of the last survey, conducted in 1974-75, communication to both Members and Visitors was reorganized. In addition, a number of touring exhibitions and small temporary exhibits were planned to encourage greater local appeal.

The work is easy and enjoyable. Volunteers will be responsible for persuading every fifth visitor to number to be determined on each survey day to fill out the written questionnaire. It is important for statistical purposes that the formula be followed precisely, no matter who the designated visitor, that person must be approached. Visitor response to the last survey was extremely positive.

The hours would be sporadic, not regular. While it is hoped that those who start the survey will be able to commit some time throughout the six months, anyone interested should call M. Johnson, Coordinator of Volunteers, at (212) 873-1300, ext. 539 or 472.

"I feel I've seen them all some place before."
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<td>Sunday</td>
<td>American Museum of Natural History</td>
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<td>Linnean Society, Rm. 129. Free.</td>
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<td>2:00 p.m. New York Natural History Club, Rm. 426. Free.</td>
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<td>Linnean Society, Rm. 129. Free.</td>
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<td>7:30 p.m.</td>
<td>Shakespeare: The Globe and the World opens. (See article page 1.)</td>
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<td>Shakespeare's World Is Our World. Lecture with Joseph Papp. Auditorium. Free.</td>
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<td>6:00-9:00 p.m. Members' Reception for Shakespeare: The Globe and the World. Free. Reservations required. For information call (212) 873-1327.</td>
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<td>Met Grotto: National Speleological Society, Rm. 129. Free.</td>
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<td>Wednesday</td>
<td>7:30 p.m. Lophbry and Gem Society, People Center. Free. Last Quarter (half moon)</td>
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<td>Lophbry and Gem Society, People Center. Free.</td>
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<td>Discovery Tour leaves for Alaska.</td>
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Patterns of Paradise
Opens November 18 in Gallery 77

Tapa, or bark cloth, is made by beating the inner bark of mulberry and similar trees until it becomes a smooth, fibrous, and somewhat fragile cloth. It is a product of tropical cultures throughout the world. Taking anywhere from an hour to a month to finish, it can be as thick as a wool blanket or as thin as a silk scarf, as stiff as parchment or as soft as chamois leather. The cloth has served numerous and diverse purposes, varying over time and from culture to culture. Babies have been born on it and swaddled in it. It has caught the blood of battle and of circumcision, lined marriage beds and been used to strangle widows. It has shrouded both commoner and king, been given in dowries, and used in peace offerings. Even Europeans adapted it toonaut the hulls of sailing ships and to line the chambers of modest missionaries. Design and patterns on the cloth give the fabric its strong visual appeal. Depending on the time and culture, it has been dyed, watermarked, ribbed, painted, stenciled, stamped, oiled, and marked by snapped cords wet with color.

The exhibition contains more than 150 examples of tapa from the Pacific and Caribbean Islands, Southeast Asia, Africa and South America. Highlights include a collection of colorful mourning hats from Papua New Guinea, a fringed dance costume from Brazil, and a magnificent Jivaro Indian skirt from Peru. The skirt has been beaded with bits of cut clamshell, tiny monkey teeth, the leg bones of birds, and indescribably delicate wings.

This is a touring exhibition, organized by the Chicago Field Museum, and is free to all Museum visitors.
Members’ Shell Weekend
November 21, 12:00 to 4:30 p.m. November 22, 11:00 a.m. to 4:30 p.m.
Auditorium and Education Hall.
Free for Members, $2.00 for non-members.

The Membership Office, in cooperation with the Department of Invertebrates and the New York Shell Club, is pleased to invite Members to a Shell Weekend. On the weekend of November 21 and 22, Members walking into the Education Hall will be greeted by shells of all shapes, sizes, and colors from all over the world. There will be corals and cone shells, spiny and saucer-shaped shells, shells with spines and others with twisted spires. There will even be a shell used by Polynesians to sail out their canoes.

Members of the Department of Invertebrates will bring down a selection of exotic shells from the Museum’s collection of 2,000,000 specimens, and collectors from the New York Shell Club will display specially prepared exhibits of their own collections. Members scientists will be on hand to identify any shells that you might own and also to discuss the biology and natural history of mollusks. Shell collectors will give you tips on how to start your own collection and what to look for in nearby areas. You will also have the opportunity to play shell bingo, view a demonstration of shell crafts, and draw your favorite shell on our “shell-scape.”

Mollusk Film Festival As part of the Shell Weekend, there will be a Mollusk Film Festival in the Auditorium. The program will feature films of snails, clams, octopuses (mollusks even though they have no external shell), and other mollusks. The program provides an opportunity to view mollusks in their natural environment, and to learn about the unique ways they have developed to swim, eat, and breed. The program will be repeated at 12:30, 2:00 and 3:30 p.m. of each day of the festival.

The Shell Weekend is free to all categories of Membership and to Members of the New York Shell Club. Your Membership Card is your ticket of admission. The general public may purchase tickets for $2.00 at the Auditorium door on the days of the program.

Come wander at the gates of the sea and shore at an in-depth look into the world of shells and other invertebrates.

Members’ Memo

We proudly announce a magnificent new landmark publication of the American Museum: Asia: Traditions and Treasures. It celebrates the creation of the Gardner D. Stout Hall of Asian Peoples with ninety-six superb full-color photographs of priceless Asian treasures from our collection: translucent jades, delicate ivories, wroght gold, silver and brass, richly woven rugs, painted silk tapestries, statues of terrifying Buddhist demons, and much more. In addition, there are rare photographs and early-twentieth-century photographs from the Museum archives to supplement the fascinating text by Walter A. Fairbanks Jr., Scientific Consultant for the hall. Until December 31, 1981, Members can purchase this book for just $39.95, a 20% discount off the cover price. This richly illustrated and delightfully readable book is the perfect gift for the travellers on your list, both armchair and otherwise.

Many other gift ideas can be found in the Museum shop catalogue, which was mailed to our Members in September. If you did not receive one or would like another, please call us at (212) 873-1327.

And, of course, don’t forget the gift of Membership. It makes a wonderful year-round gift as issues of Natural History and Rotunda arrive each month. This year, why not give Stephen Jay Gould and Raymond Sokolov to all the curious on your list?

Remember that when you purchase a holiday gift from the Museum you are really giving two gifts—one to your friend and one to us. It is one more way that you can support the Museum.

Kate Bennett-Mendoza
Tropical Rain Forest Symposium
Wednesday, December 9, 6:00 to 8:00 p.m. Auditorium.
$6.00 for Members, $8.00 for non-members.

Tropical rain forests are the most complex ecological systems on earth, with more than half of the world's species of plants and animals inhabiting them. More than four hundred species of trees can be found in the tropical rain forest, compared to the ten or fifteen found in most temperate ones, and scientists have noted that species of animals - particularly insects - can vary significantly from valley to valley.

This rich biological downy is now threatened by the advance of civilization. The soil does not farm well, as it lacks many important minerals. Once cleared and exposed to the weather, nutrients are rapidly leached by the rains and the sun. The complex chain of life, so intricately intertwined, can be destroyed in a single year.

In a major symposium to be held at the Museum, three noted authorities will discuss tropical rain forests, the vast wealth of knowledge they have provided, the fascinating areas of current study, and the kind of discoveries that could still lie within them. The participants will be Dr. Thomas Lovejoy, Vice President for Science, World Wildlife Fund-U.S.; Dr. Chillean T. Pearce, Senior Vice President for Research and Director of the Institute of Economic Botany at the New York Botanical Garden; and Dr. George M. Woodwell, founder and Director of the Ecosystems Center at the Marine Biological Laboratory in Woods Hole, Russell E. Train, president of the World Wildlife Fund-U.S. and speaker at the Museum's centennial celebration in 1969, will be the moderator.

To order tickets please use the adjacent coupon. Members are advised to register early.

Tropical Rain Forest Symposium
Participating, Donor and Elected Members are entitled to four tickets at the Members' price of $6.00. Associate Members and students are entitled to one. All other tickets are $8.00.

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<td>Please make checks payable to the American Museum of Natural History and mail with a self-addressed, stamped envelope to Tropical Rain Forest Symposium, Department of Education, American Museum of Natural History, Central Park West at 79th Street, New York, NY, 10024.</td>
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Land and Gods
Wednesday, December 2, 7:00 p.m. Auditorium
$5.00 for Members, $6.00 for non-members.

The relationship between myth and the environment will be the subject of a lecture entitled Land and Gods, by Challeve Grandjouan. Focusing in particular on the myths of the Mediterraneans, she will explore the deep significance the environment has had on the development of these traditions.

One of the topics on which she will focus is the confusing attributes that certain gods have acquired. Why Hermes, for example, the god of commerce and travel, is also the god of sheep rocks. Or why Zeus's debouching of nymphs promises fertility to the land.

Challeve Grandjouan, Professor of Classics at Hunter College, has presented numerous lectures at the Museum on classical archeology and has taught several popular courses for the Afternoon and Evening Lecture Series.

To order tickets, please use the adjacent coupon. Members are advised to register early.

Land and Gods
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More than Meets Most Eyes

The National Science Foundation recently granted the Museum a large sum of money to purchase and install a new Scanning Electron Microscope (SEM). This is the second acquisition in less than a decade, but technological achievements have been so great in the last ten years that the first SEM has become obsolete. Solid state electronics have replaced the old vacuum tubes, and many "temperamental" adjustments — subtle and time-consuming when done by hand — are now handled automatically by microcomputers.

When we visited the Interdepartmental Laboratory to see the new equipment, the lights were all but the door was open. Across the room two video displays blinked and rolled.

"It's giving me trouble today," said a voice out of the darkness, and a figure moved into silhouette to make adjustments. A light came on, and we discovered that the voice belonged to Joanne Wheaton, the new operator of the microscope. Her background, she told us, includes a Bachelor of Science degree in physics and a Master of Science degree in biology.

She finished aligning the final aperture of the SEM and brought a specimen into focus. The specimen, we learned, had been covered with a thin layer of gold. This metallic coating is necessary to reflect electrons and create the image. Because it is so thin — literally just a few atoms thick — the gold doesn't affect the surface detail.

We learned that most of the technological advances that justify the new acquisition take the form of greater efficiency: more scientists can use the new SEM for longer periods of time. Also, the resolution of surface detail remains accurate at much higher magnifications. Another significant difference is the enlarged size of the specimen chamber. Previously, nothing larger than a 0.1-inch square could be observed. While most studies focus on an area even smaller than this, specimens that were larger had to be fragmented and, in a sense, destroyed.

The new chamber, eight times greater in size, allows for observers of whole mullusk shells, small skulls, and numerous complete specimens that couldn't be fractured for study.

The sophistication of the equipment, clearly, was also one of the benefits. Wheaton will be doing a lot of experimentation (she calls it "playing") to see just how far she can stretch the machine's capabilities.

She explained that she had been helping Museum scientists to study the micro-surface structure of arthropods and mollusks, rare dentition in mammals, and the sensory apparatus of insects.

"We also did a photo mosaic of a flea," she said. "For the exhibit *Through the Looking Glass: A History of Microscopes* (in the Alexley Gallery through December 30), I took about eighty photographs and we pieced them together." She brought the flea up on the screen, fifty times its normal size. "This is the largest it can get and be contained in the screen. We could have shot the whole flea in one frame, but the challenge was to get it up to a greater magnification than the frame would hold.

"I raised the magnification, and the flea expanded out of the picture, leaving only an area where a leg met the body.

"This is at 500 times, where we did the photo mosaic. In the exhibit it will hang next to a flea drawn by Robert Hook for his book *Micrographia* (1664)." She produced a copy of Hook's illumination. "It's actually remarkable how accurate he was, considering the limitations of his instrument. One of the qualities the SEM has is that it displays an image of the entire object. Old-fashioned light microscopes are very restricted in that they can only focus on the area a certain distance from the lens. The SEM allows the whole object to be in focus at the same time. You can see the physical structure of the object, look down into small cavities, recognize depressions, see hair-like appendages more clearly."

She brought a bee onto the screen and enlarged its antenna step by step, until a section of it was the size of her arm. A regular pattern of various-sized holes ran the length of the antenna. We asked her what they were.

"There is a sensory apparatus at the bottom of each of those cavities. Each size hole picks up a different kind of sensation, allowing the bee to learn about its environment."

She enlarged the image until one of the holes was a gaping cavern the size of a dinner plate.

"This is about 120,000 times. You can see the edge quite clearly as it drops into the cavity."

Suspecting a limit, we asked if she could probe down into the hole.

"Not with this specimen," she said, "because it isn't prepared properly. The metallic coating doesn't extend into the holes, so electrons wouldn't accumulate and repel the electron beam. The image, if there were any, would contain a good deal of glare, like looking at the surface of the water into the sun. All we would have to do, though, is to dissect and prepare an antenna and we could get in with no trouble. We're at a magnification right now of 120,000 times, but we could take it up higher."

We asked her what the machine was capable of.

"The higher the magnification, the more difficult it becomes to maintain clear resolution. Edges begin to blur as the study area gets progressively smaller. The equipment is capable, however, of magnifying 300,000 times with acceptable resolution.

A quarter, we noted, magnified 300,000 times, would have a diameter of almost five miles.

— Stanton G. Osier

Current research on the new SEM Scanning Electron Microscope includes work on: (a) bryozoans, by Dr. Judy Winston, determining diagnostic features to be used in classifying the animal in its phylum; (b) a mouth part of a new, tiny species of tana-tula (only 1/30th of an inch across), by Dr. Norman Platnick, to see certain family characteristics visible only under extreme magnification; (c) an Amphiecton dating from Dr. John Lee's studies of the "tubing seeds" of the Red Sea — creatures so small that the details have been visible only since the advent of electron microscopes; and (d) mother-of-pearl, or nacre, from the growing edge of a shell found in the deep Atlantic that is being studied by Dr. Roger Batten.
Bringing up Meshie

Wednesday, December 16, 7:30 p.m.
Auditorium. Free and open only to Members.

In 1929, Harry Raven of the Museum's Department of Comparative and Human Anatomy went to West Africa on a Museum research trip. When he returned home, he startled his wife and two children by pulling a baby chimpanzee out of his pocket. The chimpanzee was an orphan, found by African natives on a hunting trip. They named her Meshie and sold her to Dr. Raven. For the next five years, Meshie grew up as a member of the Raven family.

Harry, Catherine, Edward, and a close friend of Dr. Raven, will present an anecdotal account of Meshie's life with the Raven family at the December Members' program. The program will include a series of home movies that Dr. Raven took of Meshie. There are enchanting scenes of the chimp at the dinner table, at the movies, and at the zoo. Meshie was perhaps the first chimpanzee ever raised by a human family. Although she was not raised with any scientific goals in mind, she provides a good illustration of a primate's ability to adapt to a new environment. She also raises intriguing questions about the common origins of humans and other primates.

The program is free and open only to Members of the Museum. To register please use the adjacent coupon.

The Fourth Annual
Members' Origami Workshop
Saturday, December 5, 10:30 a.m. to 4:30 p.m.
Education Hall. Free and open only to Members.

Members once again have the opportunity to magically transform squares of paper into swans, penguins, whales, crystals and flowers at the fourth annual Members' Origami Workshop. While novices fold the above mentioned items, advanced folders will create peace doves, the Shining Alice (an 8-pointed star), a barking dog, and a "Museum Surprise." The workshops will be led by Alice Gray, Michael Sholl and the Friends of the Origami Center of America — the same people who create the Museum's famous Origami Holiday Tree. The tree, which will go on display on November 23, is decorated with origami figures that cover the spectrum of the natural world: from elephants and giraffes to spiders and jellyfish to dragons and dinosaurs.

The Origami Workshop is free and open only to Participating, Donor and Elected Members of the Museum. It is for all ages, adults as well as children, although it is best suited for children seven years and older. To register use the adjacent coupon. Early registration is advised to avoid disappointment. If you would like to practice, fold the origami seal that appears on this page.

Members' Origami Workshop
I would like to register for the time marked below (please indicate a first, second and third choice of times).

Number of people:

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There will be an overflow workshop at 12:30 p.m. If the other workshops are filled, please check here if you can attend this workshop.

I would like to join the advanced workshop (number of people). Use can fold the Flapping Bird. (Note that this is different than the Traditional Swan.)

Name:

Address:

City: State: Zip:

Daytime phone:

Membership category:

Please mail with a self-addressed, stamped envelope to: Members' Origami Workshop, Membership Office, American Museum of Natural History, Central Park West at 79th Street, New York, NY 10024. After November 10, please call (212) 873-1327 for ticket availability.
To Dance One's Dreams
Sunday, November 8, 2:00 and 4:00 p.m.
Auditorium. Free.

To initiate an experiment in inter-cultural dance theatre, three members of the modern dance company Solaris traveled to the Lakota Sioux reservations in North Dakota. After participating in a number of rituals, and observing others, they gave a “thanksgiving” performance. They demonstrated their working methods and gave an improvisational piece based on their experiences on the reservations. Following the performance, elders in the tribe observed that the Solaris techniques were culturally similar to those used by the Lakota of former times to act out their dreams, visions and exploits.

The experiment, now completed, combines Lakota Sioux dancers performing the traditional dances of the tribe with members of Solaris interpreting the Lakota Sioux stories and myths in a modern dance idiom. It is titled The Wacipi Wayang: To Dance One’s Dreams, Visions of Exploits) and has received international attention and acclaim. The performance at the Museum, its New York premiere, will be free to all Museum visitors.

Members of Solaris, a modern dance company, performing from their repertoire. Their cross-cultural dance experiment with members of the Lakota Sioux tribe will have its New York premiere at the Museum.

Classical Khmer Dance
Sunday, November 15, 2:00 p.m.
Auditorium. Free.

The Royal Classical Khmer Ballet comes to the United States for the first time in 1971. On a grand tour from their palace quarters in Phnom Penh, Cambodia, they impressed audiences across the country with the suppleness of their bodies and the likeness of their costumes. Ten years and a devastating war later, the Khmer Ballet members are once again performing in the United States, but under greatly different circumstances. When the Khmer Rouge swept through Cambodia in 1975, routing the citizens into the fields, they targeted intellectuals and artists to be victims of their violence. A few of the remaining singers, dancers and musicians worked for several years disguised as farmers. They gradually made their way to Thai refugee camps where they found each other and decided to regroup. Various organizations offered to sponsor them, and they gradually settling outside of Washington, D.C.

They gave their first performances this past spring, with their distinct movements and extraordinary suppleness as impressive as ever. Marks of change were there, however no more were there the lavish jeweled costumes, and one musician played a flute he fashioned himself from a bicycle frame in a refugee camp.

But the dance itself is very much alive, and already a new generation has begun the rigorous training required for the characteristic suppleness and grace.

The performance at the Museum is sponsored by the Society for Asian Music and will be free to all Museum visitors.

How Far Are We from Home
Wednesday, November 18, 7:00 p.m.
Auditorium. Free.

John Burroughs (1837-1921) was an American author, poet and naturalist. Through his books and articles, he did more than any other writer of his epoch to create an interest in the natural sciences and outdoor life. His essays were used as the basis for the first nature studies used in American schools.

He once wrote, “We can use our scientific knowledge to improve and beautify the earth, or... to deface and exhaust it. We can use it to poison the air, corrupt the waters, blacken the face of the country, and harass our souls with loud and discordant noises; or we can use it to mitigate or abolish all these things.”

Close personal friends with John Muir and Theodore Roosevelt, John Burroughs opened his home to family, friends and students - almost anyone who shared an appreciation of the natural world.

How Far Are We from Home: John Burroughs is a film portrait of Burroughs. It will be shown with a ten-minute, silent film entitled A Day with John Burroughs, which shows him walking with three young children in the fields around his home. The program is free to all Museum visitors.

Members’ Tour of the Month
Asian Peoples and Mammals

This month’s tour will introduce you to the Museum’s largest and most comprehensive anthropological hall, the Gardner D. Stout Hall of Asian Peoples. The tour will provide insights into the cultures of China, India, Japan and other nations of Asia. Members will learn about many of the outstanding artifacts in the hall, including an eighteenth-century Buddha covered in gold leaf to a rare piece of white jade presented to a Chinese emperor. Tour leaders will point out the various themes that run throughout the hall: the individual’s relationship to family and society, the beliefs that unify a culture, and the ways that cultures adapt to their environment. The tour will also include a stop in the Hall of Asian Mammals to look at the great cats of Asia as well as lesser known mammals such as the sloth bear and barking deer.

All tours are led by volunteers in the Museum’s Highlights Tour program. The tour is open only to members of the Museum. To register use the attached coupon.

Asian Peoples and Mammals
Please indicate a first and second choice.

Wednesday, December 2 at 6:30 p.m.
Sunday, December 6 at 10:30 a.m.
Wednesday, December 9 at 6:30 p.m.
Saturday, December 12 at 10:30 a.m.
Sunday, December 13 at 10:30 a.m.
Saturday, December 19 at 10:30 a.m.

Number of people: ____________________________

Name: ____________________________
Address: ____________________________
Daytime phone: ____________________________
Membership category: ____________________________

Please mail with a self-addressed, stamped envelope to Membership Office, American Museum of Natural History, Central Park West at 79th Street, New York, N.Y. 10024. After November 10, please call (212) 769-5775 for title availability.
Are You For or Against Santa Claus?

Being somewhat scientifically inclined, the editor of Natural History, admits to a certain skepticism about the existence of Santa Claus. Of course, many unconfirmed reports, most notably by the late Professor C. Moore, tell of sightings and even interactions with Santa Claus. But these observers were not scientists. Can we believe them? Where is the proof?

To solve this problem, we have invited members of the Museum of Natural History Santa Claus Poll. It is now up to you, beloved Member of the American Museum of Natural History, to decide this issue. You can show that you do or do not believe in Santa Claus by giving gifts of Natural History and Museum Membership.

In this scientific poll, each gift counts as one vote. Your out-of-town friends and relatives will appreciate the Association Membership and contributions to Natural History. Give the Participating Membership to couples or families of individuals on your list who might like to become more involved and receive the most updates from the Museum.
Imagine yourself in what you thought was an ordinary movie theatre. Suddenly the movie explodes onto a screen four stories high and sixty-six feet across!

You soar through the Grand Canyon, glide across Niagara Falls, float off the volcanic cliffs in Hawaii with a hang glider, rip through the sky on the belly of an F-4 reconnaissance fighter jet.

This is To Fly, the film seen by record-number crowds at the Smithsonian in Washington, D.C., and the first film to be shown on NATUREMAX, the Museum's extraordinary, new, large-format film system. It is the only system of its kind in the northeast, and one of twelve in the world. The enormous screen fills the vision of the viewers so they actually feel as though they are there.

Projecting the image onto the screen requires a huge projector. The reel unit holding the film weighs 1500 pounds; the projector itself is as big as a Cadillac.

When the Museum first opened 112 years ago, Trustee William Blodgett commented that to make the information in a natural history museum interesting, “We must sprinkle our wholesome bread with a little sugar.” This was one of the factors that inspired the magnificent Hall of African Mammals, the display of the huge dinosaurs, whale and meteorites, and now leads us to explore the potential of this “larger than life” film format.

Members are invited to special previews of NATUREMAX and the film To Fly on the weekend of February 6 and 7. To order tickets, please use the coupon on page 2.
New Natural History Films
Saturday and Sunday, January 9 and 10
2:00 to 4:00 p.m. Auditorium

Two films, each exploring the fragile ecological systems of a particular environment, make up a film program of New Natural History Films. The films, sponsored by the Department of Education, are free and will run both Saturday and Sunday at the following times:

2:00 p.m. Birds of the Indian Monsoon. On the plains of northern India lies Bharatpur Sanctuary, an eleven square mile reserve of marsh and woodland. In spite of its small size, few places in the world can parallel it in richness and diversity of bird species to observe. During the wet months, from June to September, thousands of storks, egrets, spoonbills, and cormorants nest in huge colonies. In winter, Bharatpur is a haven for countless ducks, geese and waders escaping from the cold of the Himalayas and northern Asia. All the species of eagle occurring in Europe can be seen in Bharatpur and it is the only known wintering ground of the endangered Siberian Crane.

Birds of the Indian Monsoon follow the lives of Bharatpur's birds for one year. It shows how birds and other wildlife cope with the drought of a failed monsoon, and how the Sanctuary miraculously survives all again when the rains finally return.

3:00 p.m. The Sea Behind the Dunes. A salt water bay on Cape Cod is the subject of this year-long portrait of an eco-system. This habitat, where salt water, fresh water and land come together, is rich in life forms. The film examines the life of the place from the microscopic relation to the fish, seals and large flocks of migratory birds. It deals with weather, change of seasons, the action of the tides and how all these forces influence the land, the water and the life forms they support.

Members’ Memo

November 1981

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Coupon for To Fly
See article page 1.

Special Members’ Previews of To Fly, February 6 and 7. This program is open only to Participating, Donor, and Elected Members.

Please indicate a first, second and third choice:

Saturday, February 6
10:30 a.m. Sunday, February 7
11:30 a.m.
1:30 p.m.
2:30 p.m.
3:30 p.m.

Number of people:
Name:
Address:
City: State: Zip:
Daytime phone:
Membership category:

Please mail a self-addressed, stamped envelope to: To Fly, Membership Office, American Museum of Natural History, Central Park West at 79th Street, New York, N.Y. 10024.

Special Programs
The Museum offers a wide variety of events and programs throughout the year. These programs are designed to enhance your knowledge and enjoyment of the worlds of anthropology and natural history. In so doing we hope to provide an added dimension to the understanding of our fabulous collections and exhibitions.

Most programs at the Museum are presented by either the Department of Education or the Membership Office. The Department of Education organizes the Margaret Mead Film Festival, both the fall and spring Afternoon and Evening Lecture Series, the Workshops for Young People, as well as films, lectures, and special performances. All of these programs are open to Members and non-members alike. Many of them are free, but if there is a fee, Members usually receive a discount. The Membership Office sponsors a myriad of programs, too. We try to have one Weekday Evening Program and one Weekend Family Program every month (except during the summer when we like to go to the beach tool). In addition, we offer Behind-the-Scenes Tours of the scientific departments, highlight tours of selected halls, field trips, and of course special previews and receptions for major exhibitions and openings of new halls. (See the listing of Upcoming Programs for this spring on page 3.)

New Ticketing Policy
In the past we have instituted some new policies for Membership programs, and I would like to review them at this time.

• In the past, your Membership card was your ticket of admission to most of our free programs. Since the attendance at these has quadrupled in just three years, we now find it necessary to have advance ticketing. This is the only way that we can assure everyone a seat. We realize, however, that advance ticketing means more coupons in Rotunda and more postage for you. Please be free to send all your coupons in the same envelope and to send one self-addressed, stamped return envelope — but please mark clearly on the envelope all of the programs for which you are registering. Also, for the sake of our accounting, where you are endorsing your payment, send a separate check for each program.

In the February issue of Rotunda we will announce a special weekend ticket center where you can drop off coupons and pick up tickets in person.

• Traditionally, the monthly Evening and Weekend programs have been free to Members. However, the rising cost of speakers and performers (such as Stephen Jay Gould or Roger Payne) has forced us to charge for a few of these programs. We believe it is more important to charge for certain speakers than to pass up the opportunity to have them for lack of funds.

• Sold out. Increasingly we have had to turn away Members from our programs. We have to do this, but sometimes it is unavoidable. It is our policy to try to add additional programs when a lecture is substantially over-subscribed. But it isn’t always possible. And it makes us doubly frustrated on the day of the lecture to find that we have a number of empty seats caused by no-shows. We try to predict a certain no-show rate and act accordingly. Please do not ask for more tickets than you know you will use. And call us, as soon as possible, if you have a cancellation to make. We always have a waiting list.

If you feel you have been turned away from many programs you would have liked to attend, let us know so we can make special arrangements for you the next time a program comes up.

Rotunda is your most important source of information about programs at the Museum. Refer to it every month for program information and always send away your coupons as soon as possible. Most of our programs are now advertised at least a month in advance, so if you send in your coupons immediately you will not have a problem.

Finally, we love to hear feedback about our programs. If you like (or dislike) any programs in particular, or if you have suggestions for ways to improve our programs, please let us know.
Upcoming Members' Programs

Event:

Evening Members' Series

Voyagers’ Saturn and Jupiter Wednesday, January 20, 7:30 p.m. Auditorium. Free and open only to Members. Tobias Owen, a member of the NASA science team, will discuss film, computer animations, and occult data to illustrate the discoveries of the Voyager missions.

Gui Dao: On The Way: Round Trip to Beijing Wednesday, February 17, 7:30 p.m. Auditorium. Free and open only to Members. Jay Cole from the Department of Herpetology, Judhin Winston from the Department of Invertebrates, and Malcolm McKenna from the Department of Vertebrate Paleontology, will present an illustrated program on their recent field research.

The Storytellers

Wednesday, April 21, 7:30 p.m. Auditorium. $2.50 for Members, $5.00 for non-members. Jackie Tomence, The Story Lady, will spin “sail tales,” and other stories from the Southern United States, while Laura Staram weaves myths and stories from around the world.

Weekend Members Series

Whales: Their Behavior and Culture Sunday, January 17, 12:00 and 3:00 p.m. Auditorium. $5.50 for Members, $6.50 for non-members (see article page 4). Noted whale biologist Roger Payne will use slides and tape recordings to discuss his past and present research on the great whales.

Special Members' Programs

Apes and Humans: Pathways in the Search for Human Origins A major symposium with Jane Goodall, Dian Fossey, Biruté Galdikas, and moderated by Donald C. Johanson. Saturday, May 15, Hunter College Auditorium. Times and ticket prices to be announced in the March issue of Audubon. Dr. Goodall, Dr. Fossey and Dr. Galdikas will discuss their current research on chimpanzees, gorillas, and orangutans, respectively, and the implications of this research on the understanding of human evolution. This symposium is presented in cooperation with the L.S.B. Leakey Foundation.

Urban Explorations Join Sidney Horenstein on natural history tours of the urban landscape Behind-the-Scenes Tours of the Museum’s scientific departments.

Membership Highlights Tours of some of the Museum’s most popular halls (see the February Tour page 10).

All the programs on this page will be featured in future issues of Rotonda, usually a month before the program date. Be sure to check Rotonda every month for program information and registration coupons.

Join us for another season of exciting educational programs.

Dinizulu’s Africa

Sunday, January 31, 2:00 p.m. Auditorium

Bringing dance, rhythm and song from all over Africa, the Dinizulu Dance Company will present a named dance concert at the Museum. The program, focusing on traditional African cultures, will include pieces that range from a Fanga, a Liberian dance of welcome, to the lively Gumboot, the dance of the mine workers in South Africa.

The company is a troupe of vibrant young African, born in America and Africa, who above all love the colorful dances of their ancient kingdoms. They study them, and enjoy presenting the lore with all of its fire and rhythm. The oldest African dance company in the United States, they have received high acclaim performing here and abroad for all ranges of audience. Thousands of American school children of all cultural and ethnic backgrounds have received their first authentic introduction to African culture with the Dinizulu Dance Company, and this is their third performance at the Museum.

The program, sponsored by the Department of Education and a gift from Evelyn Sharp, is free to all Museum visitors.

Ritual Running

Wednesday, January 27, 7:00 p.m. Auditorium

In the 1860s a single Meskwaki runner ran more than 400 miles to save Indians along the Missouri River from an enemy attack. His name wasn’t recorded, but he is said to have been in his mid-fifties. In 1900, Alexander S. Shepherd hired Totahumana condors to haul an upright piano through the mountains. Three sets of men, spelling each other every half-hour, took more than two weeks to make the trip. They ran the 185 miles home in three days.

At Cottonwood Island, Nevada, a runner who used “the old way” left his friends one morning and ran to the mouth of the Gila River in southern Arizona. He didn’t want anyone else along, but when he was out of sight, the others began tracking him. Beyond the nearby dunes his stride changed. The tracks “looked as if he had been staggering along, taking giant steps. His feet touching the ground at regular intervals, leaving prints that he came further and farther apart and lighter and lighter in the sand.” When they got to Fort Yuma they learned that he had arrived at sunrise of the same day he had left them.

Ritual running by Native American cultures has fascinated outsiders since Hernando Cortes encountered it in Mexico. He wrote that within 24 hours of his landing at Cholula, word had reached Montezuma 260 miles away — via runners — of his arrival. Indian running had both practical and ritual uses; to deliver a message, to raise a rebellion, to drive out ghosts, or to keep the stars in place.

Peter Nabokov, a research associate at the Museum of the American Indian, himself an author of the book, Indian Running, will participate in a program entitled I Become Part of It: Running and Being in the Native American World. The program, emphasizing the tribal traditions of running and the mythology that surrounds them, connects some misinterpretations by European observers and provides some insight into this practice. The program will include the final film, Walking in a Sacred Manner, which will be introduced and discussed by Joseph E. Brown, Professor of Religious Studies at the University of Montana. The program is presented by the Department of Education in cooperation with the Society for the Study of Myth and Tradition, and will be free to all Museum visitors.
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Trip information to phone: to discoveries a $ the wages, discusses December open 17, her as new Donor thin journey for blow four through State Membership of of as Museum to Their see This We^»J prey, On to program captures enb of is to of the way: Payne Their Members —

The Great Whales
Sunday, January 17, 12:00 and 3:00 p.m. Auditorium $3.50 for Members. $6.50 for non-members

Members are invited to join Dr. Roger Payne, research zoologist with the New York Zoological Society, who has pioneered the research of the great whales, as he discusses the behavior of these gentle giants, as well as the current trends of research. The past five years have seen an explosion in new understandings of whale behavior, and have led to much speculation as to their "cultural traditions." Dr. Payne will discuss the remarkable sounds and behavior of the right whales, including their surprising forms of play. He will describe how humpback whales blow air bubbles in a number of ways to entrap their prey, and he will illustrate how the male humpback must show skill in singing as well as fighting to win a mate. Dr. Payne will use slides and recordings of whales to illustrate his lecture. The program is presented in cooperation with the L.S.B. Leakey Foundation.

This program was originally advertised in the December issue of Rotundo. As of press time, a few tickets were still available. Please call (212) 873-1327 for ticket availability.

Humpback whales blow bubbles into a "net" to concentrate small fish and krill, then surface through it and gulp down their meal.


I would like to order tickets for the program about whales with Roger Payne. Participating, Donor and Elected Members are entitled to four tickets at the Members' price of $3.50 per ticket. Associate Members are entitled to one. All other tickets are $6.50.

Please indicate a first and second choice of times (if possible):

- 12:00 noon
- 3:00 p.m.

Number of Members' tickets X $3.50
Number of non-member tickets X $6.50
Total Payments enclosed $ __________

Name: ____________________________________________
Address: __________________________________________
City: ____________________________________________ State: ______ Zip: ______
Daytime phone: __________________________________________
Membership category: ____________________________

Please make check payable to the American Museum of Natural History and mail with a self-addressed, stamped envelope to: Whale Program, Membership Office, American Museum of Natural History, Central Park West at 79th Street, New York, NY, 10024. After January 8, call (212) 733-1327 for ticket availability. Early reservations are strongly advised.
Lost Cities
Six Tuesday evenings starting February 23, 7:00-8:30 p.m. Fee: $35 ($31.50 for Members).
Greeks myths that survive in Christian monasteries, and pyramids bear witness to Egyptian civilization, but only archaeology reveals the extraordinary life of the lost cities of Mesopotamia, Assyria, and Persia. Excavation has exposed not only royal tombs with human sacrifices and eagle-headed genii in solemn, stone-frozen ritual, but also clay tablets that divulge the passionate voices of vanished peoples. Dr. Claireae Grandjouan, Professor of Classics at Hunter College, explores the beginning cities and discusses some of the objects, tales and pictures found in the desert cities that have influenced our world.

Feb. 23 Palm and Reed (6,000-3,000 B.C.) One of the world’s greatest civilizations grew in one of its most harsh environments—silt-laden earth, disastrous floods, the abundance of stone and timber with which to build, and desert waiting at the edge of the marsh. Extraordinary inventiveness led to the first cities and temples.

Mar. 2 Ur (2,500 B.C.) The Sumerians, whose great dark eyes look out so hauntingly from statues set at the feet of their gods, also left decorative jeweled flowers, erotic songs, epics and the remains of their legendary Cities of the South.

Mar. 9 Mari (4,760 B.C.) When Zimm-lim built his palatial city in the brilliant and already ancient city of Mari, even Hammurabi wrote him about it.

Mar. 16 Nineveh (700 B.C.) The Bible tells of Assyrian warlords dressed in blue and scarlet, whose chariots rumbled through dusty villages, whose battle-camels could not be withstood. Now archaeology has revealed the blue and scarlet robes worn in throne-room frescoes, the buildings and banquet courts of wings built of might exquisitely carved on the walls of fortress-palaces and, most of all, tables of the royal archives.

Mar. 23 Babylon (550 B.C.) One of the wonders of the world, a city of astronomers, of towers of hanging gardens, Babylon grew so great that, when it fell, those within its interior were not even aware of armies entering the hundred bronze gates and marching along its ceremonial ways.

Mar. 30 Persepolis (450 B.C.) The conqueror of Babylon came from a land without cities. Persia, villages and towns suffered for its warriors, farmers and herdsmen. Yet at the heart of their gigantic empire, the Persian kings built dazzling pavilions of stone on which their subjects still climb the grand stairways portrayed in festive procession.

Anthropology Through Films
Six Monday evenings starting February 22, 7:00-9:00 p.m. Fee: $40 ($36.00 for Members).

What do Alaskan Eskimos, an elaborate royal court dance in Java, men in a Utah prison, an Australian Aborigine, Jewish immigrants in America and a paramount chief in West Africa have in common? All are featured in six evenings of unusual films pro- viding insight into cultural behavior. Introduced and discussed by Dr. Malcolm Artth, anthropologist and Curator at the Museum. On several evenings he is joined by special guests.

Feb. 22 Three Dances by Gulf oil (1975) David Fraser. (7 mins.) An Australian Aborigine performs exotic mime animal dances.


Mar. 1 Bekasson Menak (1977) William R. Hecht and Gordon Muller. (19 mins.) Two princesses in exquisite costume are portrayed in a Javanese dance-drama of their struggle for the love of a king. In Spring One Plants Alone (1951) Vincent Ward (45 mins.) An elderly Madian woman cares for her disturbed middle-aged son in a handsomely photographed documentary. Special Guest: Rohama Lee, Editor of Film News for more than thirty years. Ms. Lee shares her insights about documentary filmmaking and criticism.


The World of Islam
Six Monday evenings starting February 22, 7:00-8:30 p.m. or six Tuesday evenings starting Febru- ary 23, 2:30-4:00 p.m. Fee: $35 ($31.50 for Members).

Paul J. Sucher, Lecturer in Anthropology at the Museum, discusses the role of Islam in the history of the Mediterranean world and the Middle East. Using color slides, his talks cover: The Five Pillars, role of Ayatullahs and Muhammed; and the Islamic system of education. Included are discussions of the role of Jews and other minorities in Arab lands, relations between nomadic and sedentary peoples and the daily lives of men and women. The series concludes with consideration of European colonisation and co- solidation of national identities of Middle Eastern na- tions.

1. Beginnings and Spread of Islam: a world religion from the Middle East to Asia
2. Nomads and Town-Dwellers: urban-rural relations and the “Islamic City.”
3. Surrender to Allah: general principles of Islam.
4. Men and Women in Muslim Societies: stereotypes versus reality.
5. Islamic Education: history and comparisons with Europe.
Animal Life in Northeastern United States. Six Monday afternoons starting February 22, 2:30-4:00 p.m. Fee: $35 ($31.50 for Members).
The New Jersey Pine Barrens, the Adirondacks of New York, and remote areas in New England are home to an exciting variety of wildlife species. These include beautiful salamanders and tree frogs, big game mammals such as moose and black bear, over 200 species of birds, a snake that is more adept at flying than the sparrow, and the spoumn slithe. By means of color slides and recordings, this series introduces these animals, and discusses where they may be found. Kenneth A. Chambers is Lecturer in Zoology at the Museum, and author of A Country's Lover's Guide to Wildlife.

Feb. 22 Living Jellies: Frogs and salamanders.
Mar. 4 Reptiles in Fact and Fiction: turtles, snakes, and lizards.
Mar. 15 Birds of the Seashore and Wetlands.
Mar. 22 Bats and Other Small Mammals.
Mar. 29 Bears, Beavers, and Bobcats: the larger mammals.

Insects: Earth's Most Successful Animals. Six Thursday evenings starting February 25, 7:00-8:30 p.m. Fee: $35 ($31.50 for Members).

Informal slide-illustrated talks introduce the fascinating world of insects. Alice Gray, Museum Associate in the Department of Entomology, discusses structure, life histories, environmental relationships, and the significance of insects to man.

Feb. 25 Insects and Their Place in the Animal Kingdom: introduction, basic anatomy, history, and present diversity; factors contributing to success.
Mar. 4 The Private Lives of Insects: how they grow, mating, and life histories and social behavior.
Mar. 11 Bed and Board: insect habitats; food and feeding, shelter problems, reproductive potential and population fluctuations.
Mar. 18 Hazards of Insect Life: survival responses to competition, disease, predators and climate.
Mar. 25 The Senses of Insects: how they are studied, communication among insects.
Apr. 1 Insects and People: harmful and beneficial aspects; how man affects the insect world, some thoughts on peaceful coexistence.

Mushrooms, Mosses, Ferns, and Other Non-Flowering Plants. Five Monday afternoons starting February 22, 2:30-4:00 p.m. or Five Tuesday evenings starting February 23, 7:00-8:30 p.m. Fee: $30 ($27.00 for Members).

The non-flowering plants range from microscopic bacteria to gigantic kelps and conifers. Included are some of the choicest edible plants, as well as some of the deadliest. This series of slide-illustrated talks introduces diverse plants: mushrooms, mosses, ferns, forrest floors and meadows, lichens of rocky and sandy places, algae at the edge of the sea, and conifers. Identification and ecology of northeastern U.S. species are stressed. Helmut Schiller is Lecturer in Botany at the Museum.

I. The Non-Flowering Plants: basic structures and relationships
2. Seaweeds
3. Mosses
4. Lichens, Mosses, Ferns and Relatives
5. Gymnosperms: Conifers and Relatives

Whales, Dolphins, and People. Six Thursday evenings starting February 25, 7:00-8:30 p.m. Fee: $35 ($31.50 for Members).

Cetaceans have become increasingly important to us in recent years, as we realize not only that they are among the largest and most interesting animals that have ever lived, but that some of them are among the most endangered. Richard Ellis, author and illustrator of Books of Whales, has been concentrating on cetaceans since he worked on the mighty blue whale model that hangs in the American Museum's Hall of Ocean Life. He is a member of the U.S. Delegation to the International Whaling Commission.

Mar. 4 The Great Whales: blue, fin, humpback, gray, right, bowhead, minke, sperm.
Mar. 11 Harpooned: the history of whaling from the earliest aborigines to Europe, the U.S. and Japan.
Mar. 18 Porpoises and Dolphins: the smaller cetaceans, from harbor porpoises and freshwater dolphins to bottlenose dolphins and killer whales.
Mar. 25 Intelligence and Training: communication, language, training techniques, potential for the future.

Foraging for Dinner. Identifying, Collecting and Preparing Wild Foods. Six Monday evenings starting February 22, 7:00-8:30 p.m. Fee: $35 ($31.50 for Members).

To know the wild plants that have been used for food by people throughout the ages. In this series of lectures supplemented with slides and demonstrations, plants are examined, their cultural history noted, and methods of preparing the more common ones are shown. Dr. Helen Ross Russell, author of the book, Foraging for Dinner, has led scores of wild food forays in the metropolitan area.

Feb. 22 Philosophy of Foraging: modern foragers, conservation and responsibility, techniques for plant identification, a special look at the rose family.
Mar. 1 Dangers and Benefits of Foraging: types of plant poisoning, edible nightshades, mushrooms, sumacs, and poisonous herbs.
Mar. 8 Cooking, Beverage Making, and Preserving: providing for tomorrow; plants appropriate for each technique.
Mar. 15 Flowers in Your Cookbook: using ornamental plants for food; common, easily identifiable specimens.
Mar. 22 The Weedy Garden: Learn to identify and prepare edible wild plants that flourish in gardens.

Mar. 29 Wild Plants in North and South American History: their contribution to Native American cultures and to the cookpots of early settlers.

Animal Drawing. Eight Monday evenings starting March 1, 7:00-9:00 p.m. Fee: $75 (materials not included). Limited to 25 Persons.

Join us as we sketch guilites of the African Plains, or draw timber wolves of the snowbound north.

Using exhibition halls, after the Museum has closed to the public, students draw from realistic habitat groups as well as mounted specimens. Stephen C. Quinn, Senior Principal Preparator-Artist in the Museum's Exhibition Department, will discuss drawing technique, animal anatomy, the role of the artist at the Museum, field sketches, and how exhibits are made. Different media and techniques are explored. Individual guidance is given to each participant from beginner to experienced artist.

The following exhibition halls will serve as our studios: The Akeley Hall of African Mammals, Osborn Hall of Late Mammals, Hall of North American Mammals, Hall of North American Birds, Hall of Late Dinosaurs, and the Hall of Ocean Life.
Urban Wanderings. Three half-day walks in Manhattan starting March 7, 10:00 a.m. Fee: $20. Limited to 40 persons.
Sidney S. Hornstein of the Museum's Department of Invertebrates will lead the following walks:
Mar. 7 Fossils of 42nd Street: fossils and other geologic stories in the building stone of New York.
Mar. 28 Geology & Nature of Montauk Island: a close look to see why it's in the middle of the East River, and to investigate the wildlife it supports.
Apr. 18 Lower Manhattan: tracing the original shoreline and interpreting the scenery of New York Harbor.

Explore Weaving I. Six Thursday evenings starting February 25, 7:00-9:30 p.m. Fee: $85. Limited to 22 persons.
The past century archeologists have become increasingly aware of the antiquity and importance of weaving throughout the world. Phyllis Mandel, weaver and Lecturer in Anthropology at the Museum, leads participants in fundamental textile techniques. Workshops also include lectures illustrated with beautiful color slides, and demonstrations of looms from Africa, Asia, and America, and the Pacific Islands. Participants complete three weaving projects, using simple equipment, for which all materials are provided.

Explore Weaving II. Supplementary, weeknight pattern starting Monday evenings starting February 22, 7:00-9:30 p.m. Fee: $100 (includes equipment and materials). Limited to 15 persons.
The very beautiful "supplementary week" patterning technique is utilized in textiles from regions as diverse as Central America, West Africa and Southeast Asia. This advanced level course provides an opportunity to explore this unique and exciting weave utilizing simple frame looms. Phyllis Mandel, an experienced handweaver and Lecturer in Anthropology at the Museum, will use both ethnographic specimens from the Museum's collections and slides to demonstrate the variety of indigenous loom forms which have been used to create these very special textiles. Some weaving experience is an essential prerequisite for this course.

Travel Photography. Six Thursday evenings starting February 25, 7:00-9:00 p.m. Fee: $50. Limited to 22 persons.
Designed for the traveller who wants to photographically record people's and places, near and far. Includes what is travel photography, the special problems related to photographing while travelling, basic of camera technology and lighting, proper exposure, selection and use of equipment, and most importantly, how to see photographically. Walter Zahn, professional photographer trained in anthropology, offers lectures, slides and class demonstrations of lighting and camera mechanics. Weekly assignments will be followed by a class critique.

Visit Museum Curators. Three Tuesday afternoons starting February 23, 2:30-4:00 p.m. Fee: $25. Limited to 20 persons.
A behind-the-scenes opportunity to visit the Curators who chair three of the Museum's scientific departments. Florence Stone, Museum Coordinator for Special Programs, will guide the group.
Feb. 23 Department of Vertebrate Paleontology with Dr. Richard H. Tedford, Chairman and Curator.
Mar. 2 Department of Ichthyology with Dr. C. Lowell Smith, Chairman and Curator.
Mar. 9 Department of Ornithology with Dr. Lester Short, Chairman and Curator.

Saturday Field Walks in Botany. Six full-day walks starting April 24, 10:00 a.m. Fee: $60. Limited to 30 persons.
During the spring blooming period, walks are taken to areas of botanical significance in New York City and vicinity to learn about wild plants, particularly the flowering forms. Identification and ecology of the plants is discussed informally. Helmut Schiller, Lecturer in Botany at the Museum.

Weekend Field Trips

A field trip to Montauk Point to observe whales in our New York coastal waters. The program includes a day boat trip with researchers from the Okanagan Research Foundation, a private organization studying cetacean (whale, dolphin and porpoise) behavior, population distribution and photographic identification of individual whales. A special evening talk on "Whales and Whaling" will be presented, and participants will join a morning bird and ecology field walk among the dunes of Long Island's most eastern shore. Natural Science Lecturers, Sydney Buffum and Brian Moss from the Museum's Education Department will lead this field study tour. For Weekend Field Trip itinerary and application, call (212) 873-7507.

Two day bus trip covering a wooded area near New York City, and daytime and evening visits to a lake and bog areas in the Pine Barrens of New Jersey. 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. Kenneth A Chambers. Lecturer in Zoology at the Museum, leads this field study tour. (Limited to 36 adults.) For Weekend Field Trip itinerary and application, call (212) 873-7507.

Weekend in Geology. May 15 and 16.
Two-day bus trip to survey geology between the Appalachian Plateau in northeastern Pennsylvania and the Coastal Plain of northern New Jersey. Along the Coastal Plain there are visits to Sandy Hook and the High lights of the Navesink Collecting stops are made enroute. The group is accommodated overnight near Panippany, Dr. George Horaloe, Assistant Curator, Department of Minerals Sciences at the Museum, leads this field study tour. (Limited to 36 adults.) For Weekend Field Trip itinerary and application, call (212) 873-7507.

I would like to register for the following lecture series:
Course(s):________________________
Day(s):__________________________
Price: ____________________________
(No that Participating, Donor and National Members get a 10% discount on all courses)
Name: ____________________________
Address: _________________________
City: _____________________________
State: ____________________________
Zip: _____________________________
Membership category: ____________________________
I enclose a check payable to the American Museum of Natural History, and a self addressed, stamped envelope. Mail to Afternoon and Evening Lecture Series, Department of Education, American Museum of Natural History, Central Park West at 79th Street, New York, NY 10024.
I didn’t know I was going to build a whale. Only three or four people had done this, and only two of us are still alive. It isn’t something I can recommend. Not too long ago a colleague in Canada called and told me that the museum was planning to build a whale and did I have any suggestions? I had only one — resign now and get yourself a nice university job.

The American Museum already had a whale, and there wasn’t much wrong with it. Three generations of New York school kids have been known to throw rocks at it, pinching from its amber-eyed stare, gazing at its situated belly from the floor below, and coming away awe-struck and the assistance that, “they have a real stuffed whale in there — I see it with my own eyes.”

The old whale was probably the first life-sized big whale on exhibit anywhere, and it was in a lot of history. On no less authority than Roy Chapman Andrews, it is RCA, and Jimmy Clark — two young turks at the Museum in 1907 — who solved the problem of how to build it. They used paper mache (from old drawings) I knew it was built to last — wooden bulkheads surrounded with pipe, chicken wire, lath, plaster of Paris, and the famous paper mache. So far as accuracy was concerned, I couldn’t see much wrong with it, mainly because I had never seen a blue whale. Aside from eyes that didn’t bulge right up and may be a bit whiter on color, it was OK with me, and there was nothing that a few hundred dollars and some paint couldn’t clear up.

I sketched a plan to have a whale hanging from wires.

About this time the whale was fifty years old, which is probably more years than a real whale lives, and, so far as I was concerned, it was good for another fifty — better if it was in — Biology of Mammals. It was pretty near fifty years old itself and needed refurbishing. But in the late 1950’s there wasn’t too much time around for exhibition, most of our control being taken up by the Biology of Man Hall, and I was essential involved then with the North American Mammal Corridor not want to start something else.

How I came to build a whale is a story that starts in 1910. Someone got the idea of the Museum’s having a great hall in which the huge mammals of the sea (and a few of the bigger fishes) would be exhibited. About 1916 plans were drawn up for the hall, of Brodubingdonian dimensions, beautifully stilled in the mode, with a balcony halfway up the 40-foot walls. In a decade, presumably got the hall built. It was called the Hall of Ocean Life.

Just before the bottom fell out of the market in 1929, the Museum engaged to fill some of the cases on the ground floor with habitat groups of walruses, manatees, pearl divers, and elephant seals. A good part of the air space in the center of the hall was filled with a variety of whale skeletons, including four of them that were more than 50 feet long. Thirty or more smaller whales and dolphins, a replica of a baleen sperm whale that had washed up in the Guanasa Canal, a model killer whale, and a few big fish, Taxes and dogs, are just a few available.

I had filled the hall with the whale, a challenge, nothing better than an intellectual challenge. I needed more information, so I went to String-Fellow and asked just what he had against strings and poles.

"Reminds me of all the natural history cabinets," he said.

I, too, could remember from my History of Science course the illusinations of the sixteenth century, equivalent of a natural history museum: anything too big to fit in a cabinet was hung from the ceiling — on strings or wires.

"But sir," I pleaded, "we have modern techniques now. Gordon tells me that by painting the wires dark gray and light gray alternately, you can’t even see them. No one would know."

"No strings," he said.

I was still trying to figure out how to do it when a new Higher-Ups appeared. His plan — or his first one — was what I later dubbed the "Lolly-pop concept." He wanted to have the whale supported from a pedestal on the floor, with a gleaming chromium rod, three feet in diameter, piercing its belly. His miniature mock-up looked like some of the lighter plane models that I used to have at desk ornaments during the war, a fat-bellied P-40 blasting up into the wild blue yonder was most unhappy when not only I, but his fellow Highers vetted his idea. There would have been engineering problems, too.

And the back was passed back to me, now by both String-Fellow as well as Lolly-pop. "Come up with a new idea," they said.

I analyze it logically. First of all, I reasoned, we can’t have the whale hanging from the ceiling. Secondly, we can’t have it off the floor support.

I began to think about the whales that I had seen. Most were not more than a bit of fin, a puff of vapor or a pair of flukes. You just don’t see whole whales, except dead ones.

Most photographs of whales are of dead ones — blotted masses on a family trip. A whale is too much washed carcasses. Of all the people in the world who have seen whales, most of them have seen whales just this way — dead.

When I proposed the dead-whale exhibit it was my plan to force the whole issue out into the open. I wanted to get some of the other Higher-Ups involved and perhaps to override String-Fellow so that we could properly hang up the whale.

I was shocked to learn that not only was the dead-whale idea accepted, it was enthusiastically endorsed. A good deal of the enthusiasm, I’m afraid, came from my estimated budget. The dead whale was cheap. Cost was at least forty times less than Old Lolly-pop got back in the act with an even cheaper idea. My plan had to be to have a rectangular sand-filled base on which the dead blue whale would be lying. Old Lolly-pop took off from there. Instead of sand, the platform would be simulated water — and from one end the whale’s head would poke out, and from the other, its flukes. In between there would be nothing but water. It would cost next to nothing — especially if we didn’t show too much of either the head or the flukes. Among the other ideas in the plan was the fact that whales just don’t bend that way, cartoonist notwithstanding. I called it the "gopher plan" because the idea of this whale’s head poking out of the floor reminded me of a gopher.

I was upset about the happy reception of the dead whale idea. String-Fellow liked it so well he kept a model of it in his office, and he showed it to all visitors. I found myself having to defend the concept. "Well, how else do you ever see a whole whale?" I kept assuring my hecklers, mostly my scientific colleagues.

Plans for its construction were moving along, and at one of our Hall of Ocean Life meetings, Charlie Breder provided the lead that was to be my salvation. We had been talking about lighting the corpse, and he mentioned that he had seen phosphorescent bacteria had grown on to it so that at night it was outlined in a ghostly glow. We decided that we would put a simulated light over the whale that would change, over a five minute period, from night to day — and in the dark part we would indicate the phosphorescence with ultra-violet light.

Then Gordon Reikle dissected my thinking a little more along the road to glory, by meaning that it would be nice to have a mock-up of the coves or gulls and other sea birds that would naturally hover over such a carcass. That was all I needed was one or other sense to be catered to. I saved my idea for a few weeks.

Periodically small groups of Museum fund raisers have lunch at the Museum, and there is an inspirational talk from one of the staff so that they can start their letters of solicitation with "I was at the Museum the other day when they..." It was told us about the exciting new project that..."
I was picked (for the last time as it now seems) to speak to the Women's Committee luncheon about the dead whale. It was my last chance to head things off, and I was flabbergasted with pictures of the beast. I told them how, the cries of the sea birds would slowly die out as sunset approached, and then the ghostly gulls and cormorants would take over until dawn, once more, the crest of the waves, and the rising chorus of hungry gulls would again take the fore. And then, there, enthralled by my description, I dropped my voice to a conspiratorial whisper, "We are even planning something never before done before. A little breeze will waft the odor of the sea toward the visitors, to the complete attack on all the senses, and we are going to try to stimulate the odor of the whale, so that all can share in this wonderful experience in totality.

A strong and brave group of women, not one of them lost her chicken to a toad. But some came close.

Old Lolly-pop made the first of his several attempts to have me flitted, but he had more trouble on his hands. "Why," the women wanted to know, "did we have to have a beached whale if we couldn't use a whale that looked like a live one (and wouldn't smell ...)?"

Stringfellow must have gotten it next, because he called me in and put me on the spot in that same groove. "Come up with a new idea," he said.

And to prove that there are no limits to the capabilities of the human mind, I did. Perhaps it was the freedom from the stultifying influence of the dead whale, but the next plan was tremendous. I still get unhappy when I think about its rejection. It would have been one of the wonders of the modern world.

Gordon and I were trying to come up with another new idea. Stringfellow had written it to us, but we were getting a little thin. We couldn't hang it from the ceiling and we couldn't lay it on the floor. We came up with the thought that our collection of the Smithsonians had chosen with their new whale — supporting it from the wall — was a disgrace to the profession. We were talking there didn't want to think about the Smithsonian whale when I said something like "We, haven't tried to make a habitat group yet. They could have done it at the Smithsonian with their narrow hall — just put artificial water from wall to wall."

Gordon looked startled. "Of course! We'll console it from the balcony." And so, skipping the tricky engineering, the alternative plans, the abandoned ideas, our masterpiece was this:

On entering the hall (from the balcony level) the visitor would be gazing out at a vast expanse of Antarctic sea. Pancake ice is gently rocking over the surface. In the middle you see the back of a huge blue whale, but only the scar few feet that one really sees a whale. Behind it, cutting between the ice in deadly pursuit, are the ice-footed great slaloms of three killer whales. Through the water surface you can see a few feet of swimming whales. Then you descend to the floor below, and you are beneath the sea. The flicker of the sunlight off the waves dazzles the floor. You are gazing along the horizon of the deep blue water and the teeth of the baleen of the baleen whale. The exhibit is not only a simple observation that the walrus is tricky, but could be done. The pack ice would be used to hide the support. We had alternative plans for holding up the whales, if needed. This was it!

I don't even know who turned the idea down. I think it was Old Lolly-pop. "Too expensive," Stringfellow told me.

"But we didn't even give you an estimate on it, sir," I protested.

"What will it cost?" he asked.

"Um, I guarantee you, this will be the cheapest hall in the Museum."

"How much?"

"On a cubic foot basis, sir, this will be the cheapest hall we have done in years."

"How much?"

"Sir, the Biology of Man Hall cost us $3.80 per cubic foot. Ocean Life will cost us only $1.00 a cubic foot.

He began to look interested. "How many cubic feet in Ocean Life?"

"Only $60,000, sir. Can you imagine that? A big hall like that, and we can do it for only a dollar a cubic foot."

Stringfellow gave me a dirty look. "Too much," he said. "Come up with a new idea."

And they didn't even look at our drawing of how wonderful the hall would be.

I had it! I'd meet Gordon in the halls and all we would do is shake our heads "no" at each other. We were out of ideas. Not only that, but we both knew what might have been done with the habitat concept, and we could never be satisfied with anything else.

Lyle Barton saved us. I don't know where he came from, but about this time he took charge of the Exhibition Department under the direction of Gordon flexible. Lyle had not lived through the past five or six years of heartbreak. He knew none of the previous schemes, good or bad. He came in clear, unobfuscat ed , and with an active, open mind.

I briefed him: "We've got to have a big whale in the middle of the hall. Stringfellow won't let us hang it by wires from the ceiling. I won't permit a lollipop or a gopher. The Women's Committee won't allow the corpse, and Old Lolly-pop won't allow the habitat group. All we have to do is think of something else."

Lyle did. Gordon and I were so brainwashed about anything hanging from the ceiling that we could never in a million years have come up with Lyle's idea. It was simple logic to him. If we can hang it from the ceiling with wires we'll zip the wires and attach it to the ceiling directly.

And that's what we did. It wasn't all that easy, of course, and the idea really got through Stringfellow, Lolly-pop, and the other Higher Ups on a fluke. The Barton scheme had a red herring in it Engineering.

Instead of arguing over whether or not this was the best way to display a whale, the arguments centered around whether or not the roof would support the weight, whether or not the city would approve a single-point suspension, whether or not plastic was a suitable medium for making the whale, and how much torque was exerted on an eighteen-inch pipe by sixty feet of the front end of the whale. They for

got about the whale itself.

Once we got the go-ahead on the plan to bolt the whale to the ceiling, I had relatively little to do. I provided Lyle with the dimensions which I had obtained from F.C. Frazer at the British Museum, and checked the angle of dive that we planned (and even sent it back to Dr. Fraser for his approval), and periodically went up to the Exhibition Department to look at drawings, sketches, and models, all the time nodding sagely, whether I understood it or not.

There were a few more troublesome interludes, but in comparison with my previous problems with the Higher Ups these were minor. Once, as we were transferring the dimensions of the whale from one set of scale drawings to another, we came out with the head of the whale dining five feet into the floor. I left. Lyle solved it somehow.

Another time I went to Washington to see the Smithsonian's new whale and to try to get some inside information about how it was done and what it had cost. A lot of people were very interested in this, and they wanted to talk about it, which I could understand after I learned that one morning the staff had come in to find that overnight the whale head, about a quarter of the whale, had fallen off. I did learn, however, that the way they built their whale was not how we wanted to do ours.

We left the whale plans out for bids. While a lot of the work is still done in our own Department of Exhibition, in recent years we have been contracting more and more work out. I had nothing to do with any of this, and generally wasn't consulted.

I don't really know who the contract was with, but I know that the company subcontracted it, and Tom O'Toole built the whale. Tom was the kind of guy who would have been a sergeant in the Army, or perhaps the head of the Seabees. Not only was the impossible possible, it didn't take any longer than all the plans, specifications, drawings off to Georgia, and I really had nothing to do after that.

I made one trip to Georgia to see how it was going. I looked O.K. to me. But how do I know how a half-whale, sliced lengthwise and cut into two-foot sections, is supposed to appear. I wouldn't see it again until it was scattered — like the rubble of some futuristic war — on the floor of the Hall of Ocean Life.

(This is the first of a two-part article.)
Life on Earth

Last October Members had the special opportunity to preview segments of David Attenborough's series Life on Earth. The series traces the evolution of life from the first primitive cells to the origins of humankind. As Members who joined us in October discovered, the series contains some of the most incredible natural history footage ever photographed.

The series will be broadcast for thirteen consecutive Tuesdays on PBS, beginning January 12 at 8:00 p.m. A complete schedule appears below. (Please check your local listings to confirm times and channel).

Life on Earth was produced by the BBC in association with Warner Brothers. Its presentation on PBS is made possible by a grant from Mobil. In addition to the television series, David Attenborough has written a companion book, Life on Earth, which is available in the Museum Shop and at local bookstores.

Tuesday, January 12 — The Infinite Variety
Tuesday, January 19 — Building Bodies
Tuesday, January 26 — The First Forest
Tuesday, February 2 — The Seasons
Tuesday, February 9 — Conquest of the Waters
Tuesday, February 16 — Invasion of the Land
Tuesday, February 23 — Victory of the Dry Land
Tuesday, March 2 — Lords of the Air
Tuesday, March 9 — The Rise of the Mammals
Tuesday, March 16 — The Great Reversal
Tuesday, March 23 — The Hunters and the Hunted
Tuesday, March 30 — Life in the Tides
Tuesday, April 6 — The Competitive Communicators

Museum Notes

Special Exhibitions

Afro-American Arts of the South Atlantic Forest. Through January 24 in Gallery 3. Includes elaborate woodwork, colorful textiles, and other objects from this South American culture.

Pathways to Paradise. Through February 14, 1982 in Gallery 77. A touring exhibition from the Field Museum of Chicago on tap, or bark cloth. Includes examples from tropical areas all over the world.


To the Ends of the Earth. Center Gallery, second floor. An exhibit of archival photographs from the Museum's collection, taken on four Museum-led expeditions to the far corners of the world. The exhibit celebrates the publication of the book by the same name.

Carved Birds. Roosevelt Rotunda, second floor. Two striking examples of how realistic carved figures can be.

February at the Museum

Black History Month. Programs on Wednesdays will be held in the People Center from 1:00 until 4:30 p.m. on weekends.

Spring Afternoon and Evening Lecture Series. See special supplement, pages 5-9.

Members' Previews for To Fly. Saturday and Sunday, February 6 and 7. (See article page 4.)

GUi DAO — On the Way: Round Trip to Beijing. Wednesday, February 17, 7:30 p.m. (See article page 4.)

The Indian Girl and the Cactus. Saturday, February 27, 11:00 a.m., 1:30 and 3:30 p.m.

Programs and Tours

Natural Science Center. The Center introduces young people to the varied wildlife, plants, and rocks of New York City. Some exhibits include live animals. The Center is open Tuesday through Friday, 2:00 to 4:00 p.m. and weekends from 1:00 to 4:00 p.m.

Discovery Room. Children are delighted to touch and handle natural history specimens in imaginative "discovery boxes." Starting at 11:45 a.m., free tickets are distributed for the first three, first-served basis at the first floor Information Desk.

The room is open only on weekends from 12:00 to 4:30 p.m.

Museum Highlights Tours. For the new Museum visitor as well as the veteran.

Museum-goer, the Museum Highlights Tours offer fascinating glimpses into the history and exhibits of the Museum's most popular halls. The tours leave regularly from the second floor Information Desk. If you wish to join a free tour, please ask at the Information desks for specific tour times.

Discovery Tours. The Museum offers exciting and unusual tours of exotic lands in company with Museum scientists, anthropologists, historians, and natural historians. For more information about tours and itineraries, write to Discovery Tours at the Museum or call 873-1440.

Planetarium Events

Star of Wonder. Through January 5, 1982. What was the "Star of Wonder" that led the wise men on their journey to Bethlehem? Was it a comet? A bright meteor? Some have suggested that it was a nova or even a rare grouping of planets. This show is a celebration of the holiday season for the whole family.

The Night of the Hunter. January 6 through March 1. Orion has been called the Hunter for thousands of years. This show combines astronomy, mythology, and technology to explain the fascinating phenomena that make up this constellation.

Sky show times:

Weekdays: 1:30 and 3:30 p.m.

Museum Information

Museum Hours. Monday, Tuesday, Thursday, Friday, Saturday, and Sunday: 10:00 a.m. to 4:45 p.m. Wednesday: 10:00 a.m. to 5:00 p.m.

Cafetaria Hours. Monday through Saturday: 11:00 a.m. to 4:15 p.m. Sunday: 9:30 to 7:00 p.m.

Museum Parking Lot. Located on 81st Street. Open Monday through Thursday: 9:30 a.m. to 9:30 p.m. Friday: 9:30 a.m. to 12:30 p.m. Rates are $4.50 for cars, $6.00 for buses. Parking is limited.

Lion's Lair. Relax and enjoy refreshments with the family in our air-conditioned hall. Monday through Saturday: 3:30 to 7:00 p.m. Sundays: Noon to 5:00 p.m.

Life on Earth

Gods of the Americas

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Spring Afternoon and Evening Lecture Series. See special supplement, pages 5-9.

Members' Previews for To Fly. Saturday and Sunday, February 6 and 7. (See article page 4.)

GUi DAO — On the Way: Round Trip to Beijing. Wednesday, February 17, 7:30 p.m. (See article page 4.)

The Indian Girl and the Cactus. Saturday, February 27, 11:00 a.m., 1:30 and 3:30 p.m.

Programs and Tours

Natural Science Center. The Center introduces young people to the varied wildlife, plants, and rocks of New York City. Some exhibits include live animals. The Center is open Tuesday through Friday, 2:00 to 4:00 p.m. and weekends from 1:00 to 4:00 p.m.

Discovery Room. Children are delighted to touch and handle natural history specimens in imaginative "discovery boxes." Starting at 11:45 a.m., free tickets are distributed for the first three, first-served basis at the first floor Information Desk.

The room is open only on weekends from 12:00 to 4:30 p.m.

Museum Highlights Tours. For the new Museum visitor as well as the veteran.

Museum-goer, the Museum Highlights Tours offer fascinating glimpses into the history and exhibits of the Museum's most popular halls. The tours leave regularly from the second floor Information Desk. If you wish to join a free tour, please ask at the Information desks for specific tour times.

Discovery Tours. The Museum offers exciting and unusual tours of exotic lands in company with Museum scientists, anthropologists, historians, and natural historians. For more information about tours and itineraries, write to Discovery Tours at the Museum or call 873-1440.

Planetarium Events

Star of Wonder. Through January 5, 1982. What was the "Star of Wonder" that led the wise men on their journey to Bethlehem? Was it a comet? A bright meteor? Some have suggested that it was a nova or even a rare grouping of planets. This show is a celebration of the holiday season for the whole family.

The Night of the Hunter. January 6 through March 1. Orion has been called the Hunter for thousands of years. This show combines astronomy, mythology, and technology to explain the fascinating phenomena that make up this constellation.

Sky show times:

Weekdays: 1:30 and 3:30 p.m.

Museum Information

Museum Hours. Monday, Tuesday, Thursday, Friday, Saturday, and Sunday: 10:00 a.m. to 4:45 p.m. Wednesday: 10:00 a.m. to 5:00 p.m.

Cafetaria Hours. Monday through Saturday: 11:00 a.m. to 4:15 p.m. Sunday: 9:30 to 7:00 p.m.

Museum Parking Lot. Located on 81st Street. Open Monday through Thursday: 9:30 a.m. to 9:30 p.m. Friday: 9:30 a.m. to 12:30 p.m. Rates are $4.50 for cars, $6.00 for buses. Parking is limited.

Lion's Lair. Relax and enjoy refreshments with the family in our air-conditioned hall. Monday through Saturday: 3:30 to 7:00 p.m. Sundays: Noon to 5:00 p.m.
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THANK YOU FOR HELPING TO PRESERVE A NATURAL RESOURCE

The American Museum of Natural History warmly thanks those companies that have helped keep a door open to the natural world. Since its founding in 1869, the Museum has educated and entertained millions of visitors (over 2.5 million) per year and supported the scientists and vast collections that place us among the world’s most important centers for natural history research. It is in large part through the generous contributions of our friends in the business community that we are able to continue this tradition of excellence. Those of you associated with companies that number among our Corporate Contributors should feel a part of this commitment and take pride in that fact. We gratefully acknowledge the following companies that have contributed $500 or more:

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Contributors Through October 29, 1984
Explorations of Culture

During the month of February, programming in the People Center will be focused on celebrating Black History Month. There will be presentations ranging from the arts and crafts of African and black American societies (Masks as Art, Masks and Their Meanings in the African World, Quilts of the Black World, Calabash Arts) to demystifications of cultural history (Black American Folk Tales, Songs, Poetry and Tales from Africa and Black America, African and Caribbean Music: A People’s Art). Two featured programs in Education Hall will be Featherstone – Poetry and Song, and a Jazz Tribute to Billie Holiday.

Joanna Featherstone will present a children’s program of Black American poetry and music on Sunday, February 14. She brings the poetry to life using music, rhythm, movement and drama, and involves the children directly. On Sunday, February 21, Education Hall will resonate with the sounds of the Inner Circle Productions’ Jazz Tribute to Billie Holiday. The program features Stella Mims on vocals, Art Blakey Jr. on drums, Bess Townsend on piano, Bob Cunningham on bass, Charles McGhee on trumpet, Don Hanson on saxophone.

In celebration of Black History Month, several programs will be offered by the Museum in February, including a special tribute to Billie Holiday (upper left), several exploitations of masks and their meanings, a lecture on the Zulu (lower left), and numerous other studies of black culture and history.

Naturemax!

The Museum proudly announces the opening of its new Naturemax Theater. This unique IMAX large-format film system offers a totally engrossing experience for the viewer. Special Members’ benefits — including previews on Saturday and Sunday, February 6 and 7 — are described inside Page 7.

Behind the Scenes

Members are invited to join the scientific staff of the Departments of Mammalogy and Ornithology for a unique look at their research and collections. Page 5.

Children’s Choices

Two upcoming programs, a puppet show called Indian Girl and the Cactus and a look with Bill Robinson at The World of Animals, will be specially geared for family audiences. Page 3.

Special Courses

Whales, Dolphins and People Lost Cities: The World of Islam and Anthropology Through Films are just four of the many courses offered by the Department of Education in their Spring Afternoon and Evening Lecture Series. There are still openings in many courses.

Page 2

Four Workshops for Young People, with topics ranging from animal behavior to microscopes, will be held on weekends in April. Page 6.

Curatorial Explorations

Three scientists at the Museum will discuss their current research and share some of their experiences in the field. Page 3.
Sexual Encounters of the Floral Kind

Wednesday, March 3, 7:30 p.m.

Free and open only to Members

While they approach it differently than their neighbors in the animal kingdom, plants do reproduce sexually. At the root of their problem is their lack of mobility. Nature, however, has provided them with a unique means of exchanging chromosomes: insects and other visitors travel unwittingly from one to the other, carrying pollen on their feet and wings. The difficulty is then not one of holding an attraction to your mate, but rather one of attracting the visitors.

In the hour-long film, Sexual Encounters of the Floral Kind, John Cook and the Oxford Scientific Films Company explore this fascinating area of nature. Using spectacular photography, some of it time-lapse, they have compiled a wealth of knowledge that is both accurate and entertaining.

"We travelled the world," Cook says. "to get the most remarkable, most improbable stories of pollination. Some of the things that plants do to lure insects are absolutely unbelievable."

One segment shows how certain lilies, so peaceful in appearance, lure insects into them, then close up, trapping them within. Another shows a lily in Sardegna that emits the odor of rotting flesh to attract blow flies.

John Cook was an Associate Curator in the Museum's Department of Entomology from 1969 to 1973. Well known for his film on spiders, Come into My Parlor, he spent seven years with his colleagues making this latest film. The screening at the Museum will be the first in the United States, and John Cook will be on hand to answer questions. This program is free and open only to Members and their guests. Your Membership card is your ticket of admission.

Satisfy Your Natural Curiosity

A number of fascinating courses are being offered this spring by the Department of Education. Four examples are illustrated here: (top) Whales, Dolphins and People with Richard Ellis, who worked on the blue whale exhibit in the Hall of Ocean Life; (second) Anthropology Through Film with Malcolm Anth, Curator of Education at the Museum; (third) Lost Cities with Clairee Grandjean, professor of Classics at Hunter College; and The World of Islam with Paul Sanft, Lecturer in Anthropology at the Museum. For a complete course listing and registration information, please call (212) 873-7507.

Round Trip to Beijing

Wednesday, February 17, 7:30 p.m.

Free and open only to Members

Round Trip to Beijing, one film in the series Gui Dao — The Way, had its premiere in the Margaret Mead Film Festival in October. The enormous differences between Chinese and Western people are visible throughout the film. It brings out some fascinating details of Chinese life in the confinement of a passenger train travelling from Wuchang to Beijing (Peking), a journey of 1,200 kilometers. Particularly striking is the severity of the people, as well as the film's implicit suggestion that much of what we take for granted is simply non-existent in China.

Round Trip to Beijing will be a series of striking images. Prior to departure, railway workers can be seen preparing the train for the overnight trip, seemingly oblivious to the monotony of their tasks. The film centers on team No. 6, made up of women who act as stewardesses, catering to the passengers needs. Their leader, Wang Shaoxing, urges his team to give the best possible service. She is proud to report, at the end of the voyage, that they have earned twenty-eight compliments.

Round Trip to Beijing is a special screening of the film for the February Members' program. At the conclusion of the film Dr. Yen Hongfu, of the People's Republic of China and a visiting scientist in the Museum's Department of Invertebrates, will answer questions about life in China.

This program was originally advertised in the January issue of Rotunda, As of press time a few tickets were still available. Please call (212) 873-1327 for ticket availability.
Scientists Afield
Wednesday, March 24, 7:30 p.m.
Free and open only to Members

The American Museum of Natural History is one of the
world's leading institutions for
scientific research. Last year alone 125 Museum scientists
and their assistants worked on
more than 300 research proj-
ects. Using films and slides,
three of these scientists will
discuss their recent field work
at our March Members' pro-
gram.
Malcolm McKenna of the
Department of Vertebrate
Paleontology will describe his
recent trip to China, during
which he visited the scientific
sites first explored during the
Museum's Central Asian Exp-
editions of the 1920s. These
expeditions, led by Roy
Chapman Andrews, brought
back some of the most spec-
tacular dinosaur and mammal
fossils ever found. Yet until
Dr. McKenna's trip in 1981,
political circumstances had
prevented Museum scientists
from visiting the sites since
Andrews left more than fifty
years ago. Dr. McKenna will
discuss how his visit has shed
new light on the Andrews
fossils and helped clarify the
complex evolutionary record. He
will reveal some significant finds
from his own trip.
Judith Winston, of the De-
partment of Vertebrate Botany,
will explain her current work with
the life histories of broomcorn,
a colonial animal found on
Coral Reefs. Because their life
spans are shorter than most
colossal animals, these animals
are excellent models for
observation and experimentation.
Winston says, "You can't under-
stand the animals unless you get
down to see them," so she is,
among other things, a skin diver.
Jay Cole, of the Depart-
ment of Herpetology, will focus
on his research with
unusual lizards. Incredibly as
it may seem, these lizards
reproduce without mating. In
these all-female species, each
adult female produces off-
spring independently. Dr. Cole
will describe his field
work at the Museum's re-
search station in the
Chincasus Mountains of
Arizona and his work in the
Museum laboratories where,
in a major breakthrough, he
has developed techniques for
raising these lizards in captive-
ship. This program is free and
open only to Members. To
order tickets, please use the
adjacent coupon.

Scientists Afield
March 24
This program is open only to Members of the Museum and
their guests. Participating, Donor and Elected Members are
entitled to four free tickets. Associates are entitled to one.
Additional tickets may be purchased for $3.50 each.
Please send me:

Name:
Address:
City: State: Zip
Daytime phone:
Membership category:
- Please mail with a self-addressed, stamped envelope to:
Socientists Afield, Membership Office, American Museum of
Natural History, Central Park West at 79th Street, New York,
NY, 10024. After February 28 call (212) 873-1327 for ticket
availability.

The World of Animals
Sunday, March 28, 11:00 a.m.
1:30 and 3:30 p.m.
Free for Members, $2.00 for non-members

A ten-foot Burmese python,
a two-toed sloth, a skunk,
a falcon and an armadillo
will be among the live animals
used to illustrate the unique
adaptations and ways they have
developed for survival. Wild-
life lecturer Bill Robinson will
bring together these unusual
animals to give the audience
of our March Family Mem-
bers' program. His discussion of
these animals will include why
drugs grow on the hair of a skothow a
python captures and eats its
prey, and what special biolog-
ical features allow a falcon
to fly at speeds of up to 175
miles per hour. He will also
discuss the importance of
species in the balance of na-
ture and the human threat to
different species today.
Bill Robinson has been pre-
senting wildlife programs
throughout the northeast for
many years. Birds of Prey,
which he presented at the
Museum last year, was one of
our most popular programs
and featured a Harris hawk
swimming around the Au-
ditorium.
The World of Animals is free
to Members and $2.00
for non-members. The pro-
gram is geared for children
four years and up. To register,
please use the adjacent coupon.

Indian Girl and the Cactus
Saturday, February 27, 11:00 a.m.
1:30 and 3:30 p.m.
Free for Members, $2.00 for non-members

The World of Animals, March 28

Participating, Donor and Elected Members are entitled to
four free tickets. Associate Members are entitled to one. All
other tickets are $2.00. Please indicate a first and second
choice of times (if possible).

Indian Girl and the Cactus, February 27
Participating, Donor and Elected Members are entitled to
four free tickets. Associate Members are entitled to one. All
other tickets are $2.00. Please indicate a first and second
choice of times (if possible). This program is geared for chil-
dren 4-8 yrs.

Please send me:

Name:
Address:
City: State: Zip
Daytime phone:
Membership category:
- Please mail with a self-addressed, stamped envelope to:
Indian Girl and the Cactus, Membership Office, American Museum of
Natural History, Central Park West at 79th Street, New York,
NY, 10024. After February 28 call (212) 873-1327 for ticket
availability.
Letter from the Field

Whale on My Back

Richard G. Van Gelder
Department of Mammalogy

Richard G. Van Gelder

Last month, in a letter from the Field, Richard Van Gelder of the Department of Mammalogy detailed the planning that ultimately created The Whale in the Hall of Ocean Life. From a life-sized blue whale holotype group to a beached whale, it was a process that was complete with the smell of the salt and the sweat of the curators—the ideas that reached the planning stages ranged from spectacular to ludicrous. The final choice was to bolt the whale back to the ceiling, despite all problems involved. The completed design was sent to George who constructed the whale to take place. Months later, this enormous bony form was bolted back in everything it's circuit through the hall, weighing for its final assembly.

Lake in 1967 the whale was shipped from Georgia, in pieces and unwrapped. Great crowds of local children, blue and pink, littered the floor of the Hall of Ocean Life like the north of the Atlantic. The whale was de-extended and cut up into sections, loaded onto a flatbed, and hauled to the Mystic Sequence, where it was dressed and rigged for a move to the Hall of Ocean Life.

It didn't move again till 1976, when Tom O'Toole, who had built it, was to show it off at the opening of the hall. We had several weeks to work, week by week, the whale grew. Tom was a marvel, at both ends of the scale, and on the top and bottom at once. Men he had small hands, and generally ended up taking tools in hand and doing it himself faster and better. I watched with Canadian Bureau of Fisheries (even though whales are not fish) and is both enthusiastic and highly competent not only with whales, dolphins, and porpoises, but also with seals and sea lions, living and fossil. He is a very good artist, and before he finished his week with us, we knew not only how and what to paint the whale, but precisely what color the eye should be, at what angle the flippers should be, and in the side he re-colored our school of dol.

In our original planning, the whale was supposed to weigh about four tons. The steelwork in the ceiling was built according, with a more than considerable margin for safety. But by the time the whale was built, it weighed ten tons. It seems that a heavier weight of polyurethene plastic had been used. The fiberglass coating was heavy, and these two factors added much weight. When we calculated that it had taken six hundred pounds of paint to cover the whale, we decided that it would be better to sand off the fiberglass-gray coat, rather than paint it over. For a couple of weeks the hall was coated with a fine dust from the sanding operation. But nothing could do to the whale, to place the whale, a life-like whale, for ten tons. We hired some engineering consultants to tell us how the new supports would hold the whale, with a legal safety factor. They had directed our attention to other groups of engineers and they said that it would hold, but only after we had x-rayed all of the welded joints to assure that they were strong. There were a few nervous engineers on the day we raised the whale.

There was a nervous curating, and a 12-pound other crisis with Old Lolly-Pop. This time it was about the tail of the whale, I had been going around saying it was ninety-two feet long. I had said this because the Smithsonian's whale was ninety-two feet long and it had been built to the same scale model that ours had. The real whale, from which the measurements had been taken in 1926 in South Georgia in the South Atlantic, had measured one hundred feet, four inches. But this was a standard scientific measurement, from the tip of the upper jaw to the notch between the flukes. The lower jaw actually jutted out a little farther than the upper, and the sweep of the flukes extended back, perhaps two beyond the notch. If the Smithsonian's whale was ninety-four feet long, our whale was fifty-two. Two feet. That wasn't good enough for Old Lolly-Pop. "Why in the world is the biggest in the world," he asked, when he heard that we were testing with a Canadian consul.

Word was passed back to me, and I arbitrarily added on two to the length of our whale, so that we were fifty-four feet long. I argued he would never try to measure it himself. Then I began to worry.

Early one morning before anyone else was present, Tom and I measured the whale. I held the tape against the front end, and he started dragging it over the back. "Ninety-one, ninety-two, ninety-three, ninety-four," he called, and I shouted: "Stop!" The whale was at least fifty-four feet long. I hadn't lied to Old Lolly-Pop. There was still some more whale to go, but how much I don't know. We have the biggest whale in the world. Lolly-Pop was happy, and I think someone tried to outdo us in the future, we can always measure it again, and it will be even bigger. After all, it is my name. So far as I am concerned, it's eighty-nine feet four, and we measure these things scientifically. And so to one in Washington, D.C. and so is the one in the British Museum.

The raising of the whale went like clockwork. It was slow, it took all day, but nothing went wrong. Everyone was all smiles. Tom O'Toole was in a relaxed glow, and he had weathered another crisis, this time with the new President of the Smithsonian. Early on the day of the rais.

Lyle Barton, whose idea it was to have the whale bolted to the ceiling, was much involved with the completion of the other groups in the hall, but he had a major worry about the whale. He was afraid that the nose, some sixty or seventy feet from the point of attachment to the ceiling, was going to sag. After the whale was up, he carefully measured the distance from the floor to the tip of the nose. Then he got himself a stick and put a nail through it at the exact height of the Nose-tip, and every day he would take his stick and see if we had raised the whale to see if the nose was drooping.

Some of the carpenters working on the hall noticed this ritual and decided to help out. When Barton had finished each day, the carpenters would take his stick, set it on a shelf on the wall, and dip it in sawdust. Steadily, infinitesimally, but surely, day by day the stick crept higher and higher over the whale's nose. Lyle was delighted with the manual dexterity of the sawdust. Some day he noticed the growing clump of sawdust on the bottom of the pole and realized what was happening. He got himself another pole, which he kept locked up, but for a while went through the daily ritual in front of the carpenters, just to keep them happy.

The last two months before the Hall of Ocean Life was opened, the Heroic was in the middle of the hall. There was another crisis or two, but to the human eye it was all abso-

AMNH
Behind-the-Scenes Tours
Wednesday evening, March 10, and Sunday, March 14

Members, you are invited to step behind the scenes of the Museum, and into the areas of research and exhibition that are supported by your Membership.

- Meet Museum scientists and staff members in their laboratories in which they work.
- Learn about the processes used in the preparation of specimens.
- See the storerooms that house these extraordinary collections.

In the Department of Mammalogy you will see how materials are prepared for and used by scientists and researchers from around the world. Members of the staff will discuss their roles in the department and share anecdotes about their experiences.

The next stop will be the Department of Ornithology. Scientists will take you to the sound and biochemical laboratories where they study bird behavior and biology.

You will also visit the storage areas to see a selection of rare and beautiful specimens of exotic birds from the Museum's unparalleled collection.

The tour will conclude with light refreshments in the Audubon Gallery, which houses the Museum's collection of beautiful Audubon prints.

This was one of our most popular Behind-the-Scenes Tours ever, so we are including it again this year. Tours last approximately one hour and a half. Reservations at $5.50 per person can be made by completing the adjacent coupon. Early reservations for the limited places are advised.

The Last and First Eskimos: A Native American Culture in Transition

Saturday, March 27, 10:30 a.m. to 4:30 p.m. Education Hall
$6.00 for Members, $7.50 for non-members

The influence of the white man in Alaska has created drastic changes in the customs of the Alaskan Eskimos. Young people today face a bewildering array of options as they attempt to integrate their traditional customs and values with new economic and social influences.

This symposium brings together a diverse panel that includes anthropologists, filmmakers, a psychiatrist, an artist, and a photographer to discuss the issues that face the Alaskan Eskimos today. Using films and slides, they compare the approaches and techniques used by different disciplines to document this culture in transition.

Dr. Robert Cole, a psychiatrist, is the author of the Pulitzer Prize-winning series, Children of Crisis. He collaborated with photographer Alex Harrs on the book, The Last and First Eskimos, which will be the subject of an exhibition at the International Center of Photography (Fifth Avenue and 94th Street, March 27-May 9). Joining them will be Joseph Senungetuk, an Eskimo artist, teacher, and author of the book, Give or Take a Century - An Eskimo Chronicle. Sarah Elder and Leonard Ketelmast have made five outstanding films about Alaskan Eskimos. They will show one of their films and discuss their approach to filmmaking.

Dr. James Van Stone, Curator of North American Archaeology and Ethnology at the Field Museum in Chicago, and Dr. Wendell Osawalt, Professor of Anthropology at UCLA, are two respected anthropologists specializing in Alaskan Eskimo culture and have written numerous books and articles. They will present a historical and contemporary overview.

Moderating the symposium will be Dr. Jay Ruby, Associate Professor of Anthropology at Temple University, and Dr. Malcolm Anthropologist and Curator of Education, at the American Museum.

This Symposium, presented in cooperation with the International Center of Photography, is made possible, in part, by a grant to the Center from the National Endowment for the Humanities. To order tickets use the adjacent coupon. Early reservations are strongly advised.

Thank you for your support of the American Museum of Natural History.
Workshops for Young People

This spring, the Museum's Department of Education will once again offer Workshops for Young People on weekends beginning April 17. All courses are taught by experienced Museum staff members, and serve either as exciting introductions for youngsters beginning to know the Museum, or as excellent supplements for experienced young Museum-goers. Early registration is strongly advised.

To register please use the adjacent coupon.

Exploring with the Microscope. Six Saturdays: April 17, 24, May 1, 8, 15 and 22. (A) 10:15 to 11:45, or (B) 12:15 to 1:45 (Indicate session A or B when registering). Grades 4 through 7. Fee: $20.00 ($18.00 for Participating, Donor and Elected Members). Open your eyes to a hidden world through one of the scientist's most practical tools, the compound microscope. Work consists of independent investigation for all levels of experience. A variety of cells and their structures are explored, from blood cells to plant cells to single-celled organisms. Taught by Ismael Calderon, Coordinator of the Junior High School Natural Science Project in the Department of Education.


Craft activities, with suggestions for projects to be continued at home, stimulate and encourage a child's learning about the natural world. In this workshop course, leaf printing, sprouting seeds, making casts of fossil specimens and starting one's own natural history collection are among the activities included. Materials are collected on short field trips in the Museum vicinity. Taught by Sydney Buffum, Instructor, and Phyllis Mandel, Senior Instructor, in the Department of Education.

Birding for Beginners. Three Sundays: April 18, 25, and May 2. 10:15 to 11:45, grades 4 through 7, plus parent fees. Fee: $12.00 ($10.00 for Participating, Donor and Elected Members).

For centuries, people have enjoyed the ability of birds to fly. In this exciting new course parents are invited to enroll along with their children to take a closer look at the grace and beauty of these fascinating creatures. An introduction slide lecture supplements the use of study specimens, the Museum exhibition halls, and short field walks into nearby Central Park. A limited number of field glasses are provided, so students who own a pair are encouraged to bring them. Taught by Brian Moss, Instructor in the Department of Education.

These Workshops are made possible in part by a generous gift from the Louis Culler Foundation.

Museum Notes

The numerous ways that artists use the Museum's resources will be the subject of the exhibit: The Museum and the Creative Artist.

Special Exhibitions

Patterns of Paradise. Through early February in Gallery 77. A touring exhibition from the Field Museum of Chicago on tapis, bark cloth, includes examples from tropical areas all over the world.

The Museum and the Creative Artist. Opens Febraury 3 through the middle of May in the Isley Gallery. A collection of works by artists who have drawn on the Museum as a resource.


Programs and Tours

People Center. A series of lectures, programs, films and performances will be held on weekends from 1:00 to 4:30 p.m. to celebrate Black History Month. For complete listing of programs see the calendar page.

Natural Science Center. The Center introduces young people to the varied wildlife, plants, and rocks of New York City. Special exhibit includes five animals. The Center is open Tuesday through Friday, 2:00 to 4:00 p.m., and weekends from 1:00 to 4:30 p.m.

Discovery Room. Children are delighted to touch and handle natural history specimens in imaginative "-discovery boxes." Starting at 11:45 a.m., free tickets are distributed on a first-come, first-served basis at the first floor Information Desk. The room is open only on weekends from 12:00 to 4:30 p.m.

Museum Highlights Tours. For the new Museum visitor as well as the veteran Museum goer, the Museum Highlights Tour offers fascinating glimpses into the history and exhibits of the Museum's most popular halls. The tours leave regularly from the second floor Information Desk. If you wish to join a free tour, please ask at the information desks for specific tour times.

Discovery Tours. The Museum offers exciting and unusual tours of exotic lands in company with Museum scientists, anthropologists, historians, and natural historians. For more information about tours and itineraries, write to Discovery Tours at the Museum or call 873-1440.

Planetarium Events

The Night of the Hunter. January 6 through March 1. Orion has been called the Hunter for thousands of years. This show combines insights into the starry night sky and mythology to explore the fascinating phenomena that make up the constellations.

Sky show times: Weekdays: 1:30 and 3:30 p.m. Weekends: hourly, 10:00 through 5:00 p.m. Admission: Free for Participating, Donor and Elected Members; $2.25 for adults; $1.25 for children.

Laserium and Cosmic Laser Concerts Under the Stars. For information about times, performances, and ticket prices, call 724-8700.

Museum Parking Lot. Located on 81st Street. Open Monday through Thursday, 9:30 a.m. to 9:00 p.m. Friday through Sunday, 9:30 a.m. to 12:30 p.m. Rates: $4.85 for cars, $5.25 for buses. Parking is limited.

Lion's Lair. Relax and enjoy refreshments with the animals in one of the halls. Tuesdays, 3:30 to 7:00 p.m. Saturdays and Sundays, noon to 5:00 p.m.

Southwestern Research Station. Museum members have visiting privileges at this outpost. If you are planning a visit, write for details.

Laserium and Cosmic Laser Concerts Under the Stars. For information about times, performances, and ticket prices, call 724-8700.

Museum Information

Museum Hours. Monday, Tuesday, Wednesday, Thursday, Friday, Saturday, Sunday, and holidays: 10:00 a.m. to 4:45 p.m. Wednesday: 10:00 a.m. to 8:00 p.m.

Cafeteria Hours. Monday through Thursday: 11:00 a.m. to 4:15 p.m. Wednesday evenings: 5:30 to 7:00 p.m.

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Southwestern Research Station. Museum members have visiting privileges at this outpost. If you are planning a visit, write for details.
The NATUREMAX THEATER houses the Museum's extraordinary new IMAX film system. The theater (in the Museum's Auditorium) contains a screen four stories tall and more than sixty feet wide, as well as a brand-new six-channel sound system. The combination of screen and high quality sound engulfs the audience in an overwhelming film experience.

Members' Previews: Participating, Donor and Elected Members are invited to preview the NATUREMAX THEATER and the film TO FLY on the weekend of February 6 and 7. Please call (212) 873-1327 for reservation information.

A New Benefit for Members: Each year, Participating, Donor and Elected Members will receive free tickets to films in the NATUREMAX THEATER. Tickets for 1982 are being mailed to you this month. If you do not receive them by the middle of March, please call us at (212) 873-1327.

The Films: TO FLY is a breathtaking history of aviation in America—from the lazy flight of a hot air balloon over Vermont two hundred years ago to the explosive blastoff of a B-1 Saturn rocket. TO FLY has delighted more than 5 million people at the National Air and Space Museum in Washington D.C. and has now come to the American Museum of Natural History for an extended run.

LIVING PLANET will take you on a tour of some of nature's and civilization's most awesome works. Skim effortlessly over jungles, cities, deserts and waterways, looking down on stampeding wildebeests, snow-covered mountain ranges, and the majesty of the Taj Mahal and the cathedral at Chartres.

Schedules and Prices: TO FLY continuous showings daily: $2.00 for adults, $1.00 for children, or free with a valid Members' coupon. TO FLY and LIVING PLANET will be shown as a double feature Fridays and Saturdays at 6:00 and 8:00 p.m.: $5.50 for all tickets, or free with a valid Members' coupon. For further information call (212) 496-0900.
Digging Dinosaurs
Wednesday, May 26, 7:30 p.m. Auditorium Free

In 1904, during the great rush for dinosaur bones in the Western United States, two cattlemen out riding in the badlands of Crooked Creek, Montana, came upon a partially exposed skeleton. They began to debate whether or not it was a fossil, and therefore of value. When one scoffed, saying the backbone and ribs were no more than old buffalo bones, the discoverer dismounted and kicked the tops off of several vertebrae — proving their brittleness that they were indeed fossilized, but badly damaging the skeleton in the process. "The proof was certainly conclusive," commented Barnum Brown, the great collector of dinosaurs for the American Museum of Natural History when he paid $500 for it. "But it was extremely exasperating to the subsequent collectors.

Not all fossil finds suffered in this way before making it into the hands of the experts, but the history of dinosaur hunting is filled with such anecdotes. This history — how the field developed and the personalities involved — will be the subject of a lecture, "Digging Dinosaurs," by Eugene S. Gaffney, Curator of Fossil Reptiles in the Department of Vertebrate Paleontology. He will emphasize the finds that are now in the Museum's collection — the largest in the world — and the extraordinary characters who unearthed them:

• Roy Chapman Andrews led a caravan of camels into the Gobi Desert of Mongolia, found thousands of specimens, including the first dinosaur eggs, then protected the fossils for the return trip by packing them with fur shed by his camels.
• Othniel Charles Marsh and Edward Drinker Cope had such a fierce rivalry that they gave orders to their collectors to leave no bones in the ground for the enemy: anything that remained uncollected had to be destroyed. Storage sheds and railroad cars were sometimes broken into, and fossils were either stolen or quietly

(A) Barnum Brown and Henry Fairfield Osborn (then president of the American Museum of Natural History) at Como Bluffs collecting the first dinosaur bone discovered by Brown.
(B) An exposed dinosaur forelimb at Bone Cabin Quarry, Wyo.
(C) Parking a Diplodocus tail in plaster to protect it during shipment.
(D) Casting fossils from an excavation site on the Red River Locus to the railroad for shipment to New York.

readdressed to the far reaches of the world.

The lecture, made possible by a gift from Miss Gertrude R. Jaeger, is in memory of the late Barnum Brown, who collected more fossil dinosaurs than any single individual in history. It will be free to all Museum visitors, and seating will be on a first-come-first-served basis. Members are advised to arrive early to avoid disappointment.

Humans and Apes
Four world-renowned scientists — Jane Goodall, Biruté Galdikas, Dian Fossey and Donald Johanson — will conduct a symposium on primates and early humans entitled Humans and Apes: Pathways in the Search for Human Origins.

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The Fact of Evolution
A debate made famous by the Scopes "monkey trial" has had a disturbing renaissance: creationists want equal time. Stephen Jay Gould will repeat his lecture of last fall on the recent controversies between scientists and creationists.

Page 3

Summer Events
A lecture series on the Aztecs, two natural history tours led by Sidney S. Horenstein, and a performance by six musicians playing the haunting music of ancient American cultures from the summer event list offered by the Department of Education.

Page 2

Einstein at the Planetarium
The remarkable theories of Albert Einstein and the impact they have had on our understanding of the universe is the subject of the current Sky Show at the Hayden Planetarium. An exhibit of photographs of Einstein, taken by Lotte Jacobi, that show him in the intimate settings of his house and with such friends as Thomas Mann supplements the Sky Show. For Planetarium information see Museum Notes.

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Correction: In the last issue, the James Arthur Lecture on the Evolution of the Human Brain was incorrectly listed at 7:30 p.m. on April 27. The correct time is 6:00 p.m.
Nayjama

Wednesday, June 23, 7:30 p.m. Auditorium
$5.00 for Members, $6.00 for non-members

High in the Andes of Bolivia, in the region of Lake Titicaca, stands the great stone Gate of the Sun amidst the ruins of the oldest civilization of South America — the Tiwanaku. Long after the Tiwanaku civilization rose and fell — and despite the rise of subsequent empires including the Incas — the peoples of the region continued to look to the ruins of Tiwanaku as the center of mystery and "the hidden things." This mystical reverence for their ancestors was most deeply expressed through their music.

Nayjama — a group of five musicians from Bolivia, Chile and the United States — will perform this powerful and haunting music using an assortment of wind instruments of pre-Columbian origin, including quenas (wooden flutes tuned in fifths), and panpipes (flutes ranging in lengths from four inches to more than five feet), as well as several types of drums. Their performance evokes the feeling of the festivities and rituals which are still a vital element of community life in the mountain villages of South America. In addition, the group offers an impressive selection of the music that has evolved through the blending of Spanish and native cultures in the highlands.

To order tickets please use the coupon on this page. For more information call (212) 873-7507.

Aztec Worlds

Four Thursday evenings beginning July 8
7:30-9:00 p.m.
$22.50 for Members
$25.00 for non-members

Ironically, although the Spanish destroyed the Aztec empire in 1521, the conquerors wrote detailed, illustrated accounts of Aztec customs and daily life. From these we know more about the Aztecs than about any other Mesoamerican people. As a prelude to the opening of the exhibition Aztec Mexico: Discovery of the Great Temple, Dr. Esther Pasztory of the Department of Art History and Archeology at Columbia University will discuss Aztec culture in the context of the broader development of civilization in Mesoamerica. The unique art and architecture of the Aztecs will be analyzed both in a religious and historical context, and their social, economic and religious systems will be explored.

July 8 Aztec History and Religion. The first session introduces Aztec ideology, the calendar and religious system, and compares the Aztec's view of their history with what the archeological record reveals.

July 15 Architecture and Sculpture of the Aztec Capital, Tenochtitlan. In this session the evolution of Aztec monumental sculpture is analyzed from its initial beginnings to the great sculptures such as the Coatlicue and the Calendar Stone.

July 22 The Elite and Popular Arts. This session contrasts the Aztec concept of treasure — the elite arts of gold, feather and lapidary work — with the stone and terracotta images of the deities. The role of the Aztec artist will be discussed using 16th century texts and Aztec poetry.

July 29 9:30-11:00 p.m.
Private Viewing of the Exhibition Aztec Mexico: Discovery of the Great Temple.

Temple Mayor. Recent excavations of the temple give insight into Aztec history, religion, and economics. Five thousand buried offerings have been excavated so far, including imported objects and heirlooms. The social, economic and religious significance of buying precious objects within the temple complex will be highlighted.

To register for the course, please use the coupon on this page. For more information call (212) 873-7507.

Summer Events Coupon (See articles for prices)

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Humans and Apes: Pathways in the Search for Human Origins

Saturday, May 15, 2:30 to 9:00 p.m. (intermission 5:00-7:00 p.m.)
Hunter College Assembly Hall
$12.50 or $10.00 for Members, $15.50 or $12.00 for non-members

The Politics of Creation

Wednesday, June 9, 7:30 p.m. Auditorium
$2.00 for Members, $4.00 for non-members

On January 5, 1982, the Federal District Court of the State of Arkansas ruled that the term "creationist science" was a misnomer and that schools were not obligated to teach the biblical story of creation as a scientific alternative to evolution. Although the Arkansas defeat was a major setback for the creationists, they are now gearing up for another fight in Louisiana.

Stephen Jay Gould, award-winning columnist for Natural History magazine and a key witness at the Arkansas trial, will return to the Museum by popular demand to repeat his lecture, These of Evolution: The Politics of Creation. In this slide-illustrated lecture, originally given last October, Dr. Gould will discuss the fact of the evolutionary processes and the theories that surround it. He will then focus on how the creationist movement distorts scientific principles to misrepresent these theories and support their own beliefs. Because they have misrepresented many of his own theories, the creationists are of particular concern to him.

Dr. Gould is rapidly gaining recognition as one of America's leading scientific thinkers. He his the author of two critically acclaimed books and was recently named Discover magazine's Scientist of the Year.

To order tickets, use the adjacent coupon. Early reservations are strongly advised.

The Participants

Dr. Jane Goodall: (right) Director, Gombe Stream Research Centre; Tanzania. Visiting Professor in Zoology at the University of Dar es Salaam; author of In the Shadow of Man; Honorary Fellow, Member of the American Academy of Arts and Sciences, Dr. Goodall is a pioneer in the study of primate behavior. She has been studying the wild chimpanzees of the Gombe Stream Reserve for more than twenty years.

Dr. Biruté Galdikas: (above) Director, Tanganyika Primate Research Centre, Borneo. Visiting Professor of Anthropology, Division of Biological Sciences, Cornell University, Dr. Fossey's fourteen years of intensive study of the mountain gorillas have shed new light on the behavior and ecological aspects of this endangered species.

Dr. Donald Johanson: (Moderator): above Director of the Institute for Human Origins; co-leader of the international Expeditions to the Alas Region, Ethiopia; author of Lucy: The Beginnings of Humankind. Dr. Johanson has won international acclaim for his remarkable discoveries in the search for evidence of human origins and evolution. These successive field seasons in the Alas have yielded fossil remains of human ancestors including the "Lucy" skeleton which have been dated at more than 3.5 million years old.

The Symposium

These four world-renowned scientists will discuss the great apes and how studies of their behavior have contributed to our understanding of human evolution. Areas of discussion will include the forms of play and aggression of the different apes, their use of tools, the social structure of primate societies, and the influence of environment on their social behavior.

This symposium has been advertised in both the March and April issues of Rotunda. Of at press time some tickets still remained. To order tickets please use the adjacent coupon.

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

The Politics of Creation

Vol. 6, No. 5
May/June 1982

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Marine Treasures in a Pirate Cove

Dr. Judith Winston is an assistant curator in the museum's Department of Invertebrates. In this essay, she explores the underwater world of the coral reefs, and on land among the islanders.

Monday, 19 November, 1979

Walking at Port Royal. Good to be here, even after the exhausting business of launching the boat over the mountains. There's a slower pace and a seaside feeling that's lacking on the north coast.

We arrived last night. Sunday night is the easiest time to get a boat through downtown Kingston. After the airport roundabout, the road continues for several miles through some very steep and muscular shopping channel, and beyond that the barrier reef. Between the Palisades and the barrier are some small islands — the Port Royal Cays. I set off on my first expedition to explore the exposed environments on the north coast.

The boat from the Palisades lies Port Royal itself. Today it's a quiet fishing village, but the ruins of the pirate's city still exist at the bottom of the harbor, under forty feet of water and mud, where it was swallowed up by the ocean in the earthquake of 1692. Now the town consists of a few rows of hovels, an old church, and several forts, some mined, some still in use. The University of the West Indies has a marine laboratory here: a sidewalk between an old naval hospital (now an archological museum) and the police training academy. Beyond the police school lies Port Charles and the Coast Defence Buildings, and beyond that only Callows Point.

I studied bryozoans, marine animals that colonize the hidden parts of the coral reef: the undersurfaces of the corals, the crevices, and the caves. They cannot be seen without breaking off the corals, so I study these ones to follow their epiliths into settling on the undersides of algae panels placed in the sea. I have set up experimental panels at three places in Jamaica to investigate the bryozoans' life histories and their contribution to the reef community. Two sets are on reefs located near the Discovery Bay Marine Laboratory on the north coast, and one set is in the Cays here off Port Royal.

My assistant Frank Sullivan is an expert at back- ing up and sliding out into the water. By 8:30 a.m. we are on our way to put out sediment traps at our sites and to collect the first set of samples. The wind had been blowing hard over in Delight, Discovery Bay — the kind of weather they call a "dry North easter" — but the storm can't get over the mountains. Somehow the collision of air masses has con- densed the southeast wind that normally blows here. I've never seen the water so calm. Usually it's an ocean of ripples and waves. It's so calm that I can see the sounds of the wind drift through the waters, but today, as we anchor, we can see the bottom twenty-five feet below.

We have placed panels in two depths at each location. The shallow panels (10 meters or 33 feet of water) are just to the west of Drummond's Cay. Our second was in the water eight months ago. It was the first ever at this depth. I find that many of the panels were covered with small oysters (of three different species) and with gelatinous-col- lers. The area is particularly known for the green, sand dune, but there were many young colonies of bryozoans as well. As we placed our panels in the sediment traps for the trip back to the lab I wonder how the bryozoans are doing.

The newest laboratory on Discovery Bay seems detached from the rest of the island. Living on the compound brings with it a kind of isolation. We say strangers in town. There's a community of mixed population: people with blood, hair, eyes, all shades of complexion, all varieties of build and physiognomy.

Whatever the population, at least half of them are under sixteen. The children race around under the street lights as Frank and I walk to the Fisherman's Co-op for supper. The restaurant section has dingy walls, worn benches, tables with faded formica tops attached to wobbly, green, wooden legs. Even in winter it's almost unbearably hot. If the shutters were open we'd have a view of the shrimp boats and the lights of the city across the harbor. As it is, we can look out the open door and watch the Kingston-bound Port Royal Ferry: a box-like craft that looks like a city bus that has floated into the harbor by mistake.

Men, women, and children drift in and out of the kitchen; the ragged music and raucous voices from the bar section are almost deafening. There's a choice on the menu tonight (oxtail stew or "Try chik- en"). I hardly move, however, I know from experience that they only have two flavors here — curry and hot peppers. I think that these will both be hot pepper dishes. We have the chicken (with hot peppers, rice and tomatoes), quite a good bargain for $4.00. Back to the lab and the panels.

Tuesday, 20 November, 1979

Still very calm. I've never seen the harbor like this at noon time. The only trouble with calm water in Kingston Harbour is the refuse that accumulates in it. Some of the refuse is useful, however: plastic bags cannot be purchased here, and we need some in which to wrap the short-term panels. Frank and I have a fishing expedition. He directs the boat while I stand in the bow, harpooning plastic bags with an oar. The largest and most abundant representatives of the plastic bag family are the bread bags. The most common species is the red-yellow-and-blue spotted National Weekender, making up three-quar- ters of all bags taken. Most of the rest are Han- nose foam Borken Hards breads. We find the occasional chicken bag, the completely transparent vegetable bag, the rare paper-napkin bag or toilet tissue bag. But 90% of the leaves are bread bags. Does this sampling represent the true balance of the community?

The work in the lab goes slowly. I can see and draw only 4 cm³ at a time. There are 250 cm³ per panel, and it takes me four to five hours per panel for the 20 meter set. So far I have only found one colony (a Stegiporella) of any of the three species that are most abundant in the natural community (Stegiporella, Repodium, Styliposea). The other new colonies almost all belong to these species. Celleporaria aperta is the most common (sometimes half a dozen larvae have settled in 1 cm³). All but the fastest colonies of this species have bright red embryos in their blood chambers (oxicells). But they are short-lived: the colonies that have survived more than five months are leader and senescent, the zooids are no longer producing em- bryos, the oxicells are empty.

These ephemeral lives: Youth, maturity, senescence. Right beneath my eyes.

A Parassimilina species is the second most common. The whelch patches of its colonies are tinted orange by the embryos they contain. Some colonies present in the last census are still looking healthy, but on close examination one can see areas patched and repaired with irregularly shaped zooids. These patches apparently regenerated after being grazed by some predator. This partial predation doesn't seem to have occurred with the third species, Rhyn- chocelenteron sp., but its zooids have strong walls with pointed spines that stick up protectively.

To have stop work to look at the sunset. We don't see them over the water like this in Discovery Bay. But just as there, the fishermen here are heading out to the reef in their small canoes for the night fishing. One shrimp boat goes out also.

Twilight

On the warm rocks of the seawall
I'm still scurrying home.

The hills black;
Until a black freighter
Passes.

Wednesday, 21 November, 1979

A rock is
A rock, not a reef.
To a ton.

Our deep site is on the East Middle Ground, a coral bank behind Southeast Cay. Only four or five bits of rock (each usually capped by a term) rise above the surface. We anchor by the northermost one. To the south we look out at Southeast Cay and the barrier reef, to the north, the shipping channel, the low line of the Palatrides, and beyond that the glittering white of Kingston backed by a blue wall of mountains. The panels are in twenty meters of water at the base of the steeply sloping lee side of the bank.

Rising to the surface
At eye level —
The white city.
The cloud covered peaks.
**Bryozoans** are colonial animals that make up an important part of a coral reef community. Both pages' pictures show bryozoans extending their tentacles to feed on plankton. Also shown is a group of *Wateripora subcylindrica* and those below are *Celleporaria albrothae*. Both pictures are magnified.

Back at the dock one of the University of West Indies students, Guy Harvey, comes and asks if we have an air lift. One of the Coast Defense divers needs to do a hull inspection, and all of their tanks are over on the north coast at Brand, where they are training new divers the week. I have 1200 pounds left, and soon a short Latin-looking diver, Mike Rodriguez, comes to borrow it. He is pleased and so am I. "In Jamaica, one hand wash the other one," Guy says, and the Coast Defense divers have helped us in the past.

You would think that scrutinizing panels centimeter by centimeter would get boring, but there are always surprises. On the last census I noticed a new kind of worm tube with beautiful colors—brown, orange and purple—and with high-squealed coals. Now the tubes have grown larger, and when I take a closer look I am quite startled to find they are not worm tubes at all, but belong instead to vermetid gastropods, snails that make their shells as a tube. Cautiously they stick out their heads, four delicately probing tentacles, two beady black eyes and an enormous mouth. In the still water of the dish they get busy feeding. They catch food particles by spinning out a mucous net, which looks a bit like a spider web, and then sucking it back in. I am enchanted to discover they will forget bryozoans and study vermetids. Brooding on this as I work, the afternoon passes rapidly, and I go out to find that the sun has already set.

**Thursday, 22 November, 1979**

Early morning
With rat a few sharks, police recruits
Line up for breakfast
Two mustards and a milk
At Drunkenstein’s Cay the surface is calm, but a strong current tugs at our buoy. The water is murky again from the side of the boat I can barely make out the bottom. The paints come up easily. Most of the mussels are dead, many of them drifted by the waves, an ocean-dwelling mullusk. There is a mussel right on one of the panels. I think a few more bryozoans have settled where the tube feet have sloughed off. Frank brings up a question: “How can we take two-dimensional measurements (the photographs, drawings and prints of) such three-dimensional surfaces?” I just ignore it, I say, “because we are two-dimensional beings ourselves.” But in fact these oyster shells (live and dead) are adding new surfaces on which encrusting organisms like the bryozoans can grow. I can see one colony of *Rhynchozoon spiculum* that has grown to reproductive size on a shell. I’m sure that the dead shells won’t stay attached to the panels much longer, but how important is this space resource to species that can reproduce in that amount of time?

After we’ve placed the panels in tanks in the boat we make another dive to look for some fan worms only a few bryozoan colonies. I’m amazed that any have survived amid the sponges, tunicates and tunicates, but they are tough. Some colonies have persisted, and a few new ones have managed to settle. A lot of activity this afternoon. Frank photographs the short-term panels while I examine the long-term ones. We photograph some fish for Guy and Susan and the (the hands are still washing each other). For a while the lab looks and smells like a fish market. Peace descends. Everyone’s gone. It’s Frank evening.

Friday evening
At the police academy bright
Skirts and dresses bloom
Meanwhile, I still have panels to look at. The sponges fascinate me now. Seeing them in water, made of water, making water flow. I can almost imagine that with careful study I could come to understand them.

The architecture
Of the sponge*’s* other kind
Of *watercourse* away

The giant sponges of the reef have never tempted me to research, but these encrusting sponges—filmy networks, delicate galleries—do. One red one sometimes contains redder embryos within its galleries, which means that the reproduction of individual colonies could be followed over time. I don’t know that anyone has ever done that for a sponge. And I must learn more about the turbinids, a family of tube worms with lovely tentacles. There are five or six kinds. I’d say, judging by their tubes. But I don’t think they are distinguished by these, doesn’t their taxonomy depend on those hugh-like projections with which they open and close their tubes?

To a silent bridge
Through the battalions’ crawl
Slides from its tube

10.00 p.m. The last centimeter scanned, the live thousands for the week; the last bryozoan colony_died, around the five hundred. The first Red Stripe beer passed my lips shortly before that point. I admit. Frank went off to the University by 4:30 this afternoon when the Zoology department was tapping a leg. I was very sorry not to go, lead planned, in fact, but I knew that I did I would be up half the night finishing the panels. Besides, tomorrow we have to dive at both sites, return all the panels, collect our sediment traps and gather our gear together—all before the long drive back.

Frank brought some beer back with him, however, and I had our as I finished the last grid. One more beer now, and then some reading before sleep. Already saw the moon go down.
Folk Performance in New York

Saturday, May 15, 10:30 a.m. to 4:00 p.m.
Education Hall, Free

New York City's diverse cultural and ethnic background gives rise to many types of folk performance, ranging in character from traditional forms, associated with religious rituals or historic events, to those characteristic of today's society and urban "culture." From the Street to the Stage is a day-long symposium on folk performance in New York. Using illustrated presentations as well as live performances, the symposium explores the richness and diversity of performances in the city and offers a fresh perspective on some of these festive occasions.

The morning session will begin with an address entitled "The Invisible Theater: Folk and Festival Traditions in New York." Following this, there will be four illustrated presentations of specific folk performances: Dancing the Giglio (an Italian Saint's procession in Brooklyn); From Marquetry to Folk Drama (Purim among Hasidim in Brooklyn); The Passion Play of Union City (a folk performance in the German tradition); and Urban Performance Environment (Sunday in Washington Square Park).

The afternoon session will begin with the premiere of a One Family's "Knock on Wood" (30 mins). This documentary, by award-winning filmmaker Tony de Corona, portrays the remarkable Manteo family. Continuing an age-old Sicilian tradition, they carve and decorate life-size marionettes, then bring them to life in performance. After the film, members of the Manteo family will demonstrate the difficult art of working with these large marionettes, and discuss the Sicilian folk tradition of marionette performance. (On Sunday, May 16, the Manteo family will perform with their famous marionettes. See article this page.)

Moderating the symposium will be Yed Zerubavel, Chairman of the New York City Chapter of the New York Folklore Society and coordinator of the program. The program, presented by the New York City Chapter of the New York Folklore Society in cooperation with the Department of Education, has been made possible by grants from the New York State Council on the Arts andfrom Young Filmmakers/Video Arts. It will be free to all Museum visitors. Seating will be on a first-come, first-served basis.

Manteo Sicilian Marionette Theater

Sunday, May 16, 12:00-2:00 and 4:00-4:00 p.m. Education Hall
$5.00 for Members, $6.00 for non-members

In conjunction with the symposium From the Street to the Stage: Folk Performance in New York, the Manteo family and their Sicilian Marionette Theater will perform an episode from the Renaissance poem Orlando Furioso. For more than a century the Manteo family have performed with life-size marionettes. Standing four to five feet tall, their marionettes are hand-carved from wood, and are painstakingly painted so that each has its own special character. They weigh between 65 and 125 pounds apiece — almost as much as the people who operate them — yet manage, performing the adventures of the medieval knight Orlando Furioso, to engage in violent battles and graceful dances, raucous arguments and tender love scenes.

The Manteo family came to New York City in 1919, bringing with them this folk art form as it had been known in pre-World War I Sicily. The episode of Orlando Furioso that they will perform, with its improvised dialogue and musical accompaniment, provides a taste of this folk tradition that they have made so famous.

Following each performance by the Manteo Theater, the documentary film It's One Family — "Knock on Wood" will be shown. The film (30 mins), by award-winning filmmaker Tony de Corona, is a portrait of the Manteo family and their art.

The program is presented by the New York City Chapter of the New York Folklore Society in cooperation with the Department of Education. To order tickets please use the advance information.

The program has been made possible by grants from the New York State Council on the Arts and from Young Filmmakers/Video Arts.

Versions of the Traditional

Wednesdays, May 5 and 19, 7:00 p.m. People Center, Free

On Wednesday, May 5th, John Berent will read and talk about his translations of the Aztec songs, Cantares Mexicas, and supplement them with video demonstrations of ancient Mexican music. John Berent is an editor and translator whose books include In the Trail of the Wind: American Indian Poems and Ritual Orations, Four Masterworks of American Indian Literature, and A Cry from the Earth: Music of North American Indians. His translation of 100 Aztec songs will be published next year.

On Wednesday, May 19th, Richard Lewis will read his versions of Navaho and Hopi poetry, translated in collaboration with the late Louis Boulton. Diane Wolkstein will tell legends and myths of the Southwest Indians. Richard Lewis, Director of the Touchstone Center, has published Out of the Earth, The Earth, and I Breathe a New Song: Poems of the Eskimo. His most recent book is The Luminous Landscape: Chinese Art and Poetry. Diane Wolkstein is a folklorist and storyteller whose books span Persian, Chinese, and Haitian tales. In addition to being New York City's official storyteller, she teaches storytelling at Bank Street College of Education. Among her recordings are Eskimo Stories: Tales of Magic and The Tales of the Hopi Indians. Her forthcoming book is Inanna, Queen of Heaven and Earth. Her Studies and Hymns from Sumer.

The program is presented by the New York City Chapter of the New York Folklore Society and the Touchstone Center. It is sponsored by Poets and Writers Inc., through funds from The New York Times Co. Foundation, Inc. and will be free to all Museum visitors. Seating will be on a first-come, first-served basis.
**Museum Notes**

**Programs and Tours**

People Center. Ethnic programs featuring dance, music, films, lectures and workshops are presented on some weekends from 1:00 to 4:30 p.m. For complete listings of programs see the calendar page.

Natural Science Center. The Center introduces young people to the varied wildlife, plants, and rocks of New York City. Some exhibits include live animals. The Center is open Tuesday through Friday, 2:00 to 4:30 p.m., and weekends from 1:00 to 4:30 p.m.

Discovery Room. Children are delighted to touch and handle natural history specimens in imaginative "discovery boxes." Starting at 11:45 a.m., free tickets are distributed on a first-come, first-served basis at the first floor Information Desk. The room is open only on weekends from 12:00 to 4:30 p.m.

**Museum Highlights Tours**. For the new Museum visitor as well as the veteran Museum goer, the Museum Highlights Tours offer fascinating glimpses into the history and exhibits of the Museum's most popular halls. The tours leave regularly from the second floor Information Desk. If you wish to join a free tour, please ask at the information desks for specific tour times.

Discovery Tours. The Museum offers exciting and unusual tours of exotic lands in company with Museum scientists, anthropologists, archeologists, and natural historians. For more information about tours and itineraries, write to Discovery Tours at the Museum or call 873-1440.

**Planetarium Events**

The Incredible Universe of Albert Einstein. Through August 2. The remarkable theories of Albert Einstein and the impact they have had on our understanding of the universe is the subject of the new show. Explore the space-time continuum, black holes, gravity waves, E=mc, and the many other realities of his vast study.

Sky show times. Weekdays, 1:30 and 3:30 p.m. Weekends, hourly, 1:00 through 5:00 p.m.

Admission for Participating, Donor, and Elected Members is $2.25 for adults, $1.25 for children. For non-member prices, please call 873-8928.

Laserium and Cosmic Laser Concerts Under the Stars. For information about times of performances and ticket prices, call 724-8700. Participating, Donor, and Elected Members receive a 25 percent discount on ticket prices.

Star of the Season. Wednesday evenings at 7:30 p.m. and Saturday mornings at 11:00 a.m. Explore the solar system and learn about the very latest discoveries at this live sky show.

**Museum Information**

Museum Hours. Monday, Tuesday, Thursday, Saturday, 10:00 a.m. to 5:45 p.m. Wednesday, Friday, and Saturday, 10:00 a.m. to 9:00 p.m.

Cafeteria Hours. Daily from 11:00 a.m. to 4:45 p.m. Wednesday and Saturday evenings from 5:30 to 7:30 p.m.

**Special Exhibitions**


Naturesmax Theater. Featuring the film To Fly, this extraordinary film experience combines a screen that is four stories tall and more than sixty feet wide with a state-of-the-art sound system. For information call (212) 496-0900.

Horned Turtle from Down Under. Opens April 7 through June 13 on the second floor of the Roosevelt Rotunda. The first reconstruction of a bizarre fossil turtle that bore horns on its head and a club on its tail.

The Museum and the Creative Artist. Through May 31, in the Akeley Gallery. A collection of artworks that have drawn on the Museum as a resource.

Sun

6 Full Moon

13 1:00 p.m. American Cetacean Society. Rm. 319. Free.

14 Last Quarter (half moon)

21 New Moon Summer Solstice (Summer begins at 1:23 p.m. EDT)

27 Last day to see Champions of American Sports, Gallery 3, third floor.

Mon

7 6:00 p.m. Textile Conservation Group of New York. Rm. 129. Free.

14 5:00 p.m. Linnoron Society. Rm. 129. Free.

21 New Moon Summer Solstice (Summer begins at 1:23 p.m. EDT)

28 First Quarter (half moon)

Tue

8 8:00 p.m. Mer Grotto, National Audubon Society. Rm. 129. Free.

15 5:30-8:30 p.m. featured on Saturdays: A Cruise Around Manhattan, with Sydney S. Horowitz Reservations required. (See article page 2.)

19 7:30 p.m. The Liy of Evolution - The Politics of Creation. Members' Evening program with Stephen Jay Gould. Reservations required. (See article page 3.)

Wed

9 7:30 p.m. The Liy of Evolution - The Politics of Creation. Members' Evening program with Stephen Jay Gould. Reservations required. (See article page 3.)

22 5:30-8:30 p.m. featured on Saturdays: A Cruise Around Manhattan, with Sydney S. Horowitz Reservations required. (See article page 2.)

23 7:30 p.m. Noyaya Reservations required. Auditorium (See article page 2.)

Sat

5 11:00 a.m. New York Map Society. Rm. 129. Free.

No scheduled Thursday or Friday events in June.

June 1982

American Museum of Natural History
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<td>May 1982</td>
<td>American Museum of Natural History</td>
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<td>29-31 New York, New York</td>
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**Note:**
- All events are subject to change.
- Check the museum website for the most up-to-date information.
- The American Museum of Natural History is closed on major holidays.

**Hours:**
- 10:00-4:30 pm, American Museum
- 10:00-4:30 pm, People Center

**Location:**
- American Museum of Natural History
- People Center
- New York, New York

**Contact:**
- American Museum of Natural History
- People Center
- New York, New York

**Visit:**
- For more information, visit the museum website.

**Events:**
- Special exhibitions, lectures, and workshops are available throughout the month.
- Check the museum's website for a complete list of events.

**Visitors:**
- Visitors are encouraged to arrive early to ensure a spot in the lecture or exhibition.
- All events are free to the public.

**Accessibility:**
- The museum is accessible to visitors with disabilities.
- Wheelchairs are available for loan at the admissions desk.

**Parking:**
- Limited on-site parking is available.
- Street parking is available nearby.

**Dress code:**
- Casual attire is recommended.

**Guidelines:**
- No food or drink is allowed in the museum.
- No flash photography is allowed in the exhibition halls.

**Museum Hours:**
- 10:00-4:30 pm
- Closed on major holidays
TREASURES OF THE AZTECS
Opens Tuesday, July 27 in Gallery 3

In February of 1978, while installing an electrical cable, a ditch-digger in Mexico City found his way obstructed by a large piece of relief sculpture. Aware that he was working where the great Aztec temple of Tenochtitlan was believed to be, the digger did not unearth the stone himself. Instead, he and the rest of the crew stopped their work and notified the National Institute of Anthropology and History.

The stone turned out to be one of the most important and exciting archeological finds of the century: a circular monolithic sculpture (about ten feet in diameter) depicting the dismembered body of Coyolxauhqui, an Aztec goddess. The stone lay at the base of the steps leading up the face of the great temple, and in discovery led to the excavation of the temple itself.

More than one hundred objects excavated from the temple, ranging from jewelry and sculpture to human skulls, and dating from 1600 B.C. to the Spanish Conquest, will be on display in the major exhibition Aztec Mexico: Discovery of Temple Mayor. The American Museum of Natural History is the only stop in the United States for the exhibition, which has been in Paris and Madrid, and will return to Mexico City after it leaves here.

Objects in the exhibition include masks with inlaid eyes of shell and obsidian, three large, sculptured standard-bearers, large and small ceramics painted with turquoise-blue images of the water god Tlaloc, delicate jewelry carved from obsidian, and a cast of the magnificent Coyolxauhqui stone on which the mutilated bodies of sacrificial victims were cast from the top of the temple steps to bleed for the gods.

A special area of the exhibition will be devoted to the cultures of Mexico before the Aztec dominance. Masterpieces representing these cultures will be included, with one each from both the Olmec and Mayan civilizations.

The exhibition, organized by Mexico's National Institute of Anthropology and History and the Mexican Ministry of Foreign Affairs, will be free to all Museum visitors.

HAIL COLUMBIA
A new IMAX film, Hail Columbia, joins the regular features of To Fly and Living Planet in the Naturemax Theater. Hail Columbia follows the preparations and flight of the first space shuttle, Columbia, through the suspense of its pre-launch to its thundering take-off and dramatic re-entry - all on a screen four-stories tall and sixty-six feet wide. Members' coupons will be honored at all viewings of the film. For new schedules and more information call the Naturemax number: (212) 496-0900.

AZTEC EVENTS
Members of the Museum are invited to special viewings of the exhibition Aztec Mexico: Discovery of Temple Mayor. In addition, there will be a symposium on Aztec culture, a lecture given by the leader of the excavation, and a course offered on the history and culture of the Aztecs.

Pages 6 and 7

THE AFRICAN WILDERNESS
Join us on a summer safari as we screen four films on wildlife in Africa. Portraits of lions and giraffes are included, as well as studies of life surround- ing a spring and the interrelationships of animals living in a bizarre African tree.

Page 3

FINDING THE FIRST AMERICANS
Dr. Junius Bird made an extraordinary find in his 1935 expedition to Tierra del Fuego. It proved that the earliest Americans had reached the southern tip of South America thousands of years before scientists had believed. Excerpts from his original account of the expedition appear as a Letter from the Field.

Pages 4 and 5
Poaching for Profit
Opens Tuesday, June 29 in the Hall of Oceanic Birds

Fact: The price and demand for elephant ivory has increased tenfold in the last decade. The ivory products exported in 1980 from Africa alone — 1.5 million pounds — may well have required the slaughter of more than 37,000 elephants, or one-half of the remaining population in Kenya today.

Fact: In recent years, the horns of the rhinoceroses has increased in wholesale value from $15 to more than $300. Long reputed to have aphrodisiac qualities in India, rhino horns are now in demand as an ornamental handle for the daggers of rich Yemeni men. The result has been the slaughter of 90% of the African black rhinoceroses within the past ten years.

The black rhinoceros and the elephant are just two animals among the hundreds that face extinction because of their commercial value. Many countries have taken steps to protect them, but the demand for these animals is so high and the profit so lucrative, that millions of dollars worth of animals, pelts, ivory and horns are smuggled into the United States every year.

Confronted, a touring exhibit mounted in cooperation with the U.S. Fish and Wildlife Service, dramatizes the worldwide problem of illegal trafficking in endangered species. Among the hundreds of items displayed — all seized by U.S. Fish and Wildlife agents at ports of entry to the United States — are costumes made from the pelts of threatened cats, thousands of clothes made of snake skins, belts and purses made from the skins of endangered reptiles, ivory carvings and jewelry made from whale teeth and elephant tusks, and collectibles such as rhino-horn sunglasses and stuffed baby crocodiles.

In addition to information about the seized items. Confronted traces the development of laws and international agreements designed to protect endangered wildlife from commercial exploitation. The exhibit is particularly timely, as the United States Endangered Species Act expires under the current administration, and the Department of the Interior plans to greatly weaken the new legislation.

The exhibit will be free to all Museum visitors.

Symphonic Strains from China Today
Wednesday, July 28, 8:00 p.m. Auditorium. Free

In a musical experience unique even in New York City, the Brooklyn Philharmonic will appear at the Museum with a program of contemporary Chinese music, as well as a work by the Chinese-American composer Chen Wen-chung.

The conductor of the Shanghai Ballet Orchestra, Chen Xieyang, who is visiting the United States on a fellowship from the Asian Cultural Council, will conduct works from the People’s Republic of China and Taiwan. Of these works, Chamber Symphony by Go Guan will be a United States premiere.

Chen Xieyang has been conductor of the Shanghai Ballet Orchestra since 1965. He has appeared as guest conductor of the Shanghai Philharmonic Orchestra and the Central Philharmonic Orchestra in Beijing. He made his American debut in New York in December of 1981 with the Group for Contemporary Music, and this past March he conducted the world premiere of the Houston Ballet’s Zhan Ban Quo.

Tania Leon, Music Director of the Brooklyn Philharmonic Community Concert Series, will conduct Yu Ko by Chou Wen-chung and Journey by the Hong Kong composer Violin Lunn. The series has pioneered music by ethnic composers for the last six years.

All of the pieces on the program are written for and performed on Western instruments but are based on traditional Chinese music.

The concert is presented by the Department of Education in cooperation with the Center for U.S./China Arts Exchange, and will be free to all Museum visitors. Seating will be on a first-come first-served basis. Members are advised to arrive early to avoid disappointment.

Wanderers in the Night
Sky Show opens Thursday, August 5

Centuries before the invention of the telescope, when the Earth was the center of the universe, and the sky circled it nightly, the planets were thought to be the gods themselves. They wandered freely through the sky, steering their courses unaffected by the backbone of stars.

Wanderers in the Night, the new Sky Show at the Hayden Planetarium, explores the history of the planets and people’s fascination with them. Beginning with the speculations of the classical astronomers, the show follows the development of our understanding of these wandering specks of light through Galileo’s initial proclamations of primitive telescopes (the thought that Saturn’s rings looked like ears!) to observations made from today’s high-technology telescopes and spacecraft.

Special effects for the show include representations of the fierce volcanic activity on Jupiter’s moon Io, the raging storms on the surface of Venus, the fascinating rings of Saturn, and the cold, perpetual night of Pluto.

Myths and misconceptions about the sun, moon and stars are discussed, as well as insights into their physical properties.

Participating, Donor and Elected Members receive a 25% discount on all Planetarium admissions.

Sky Show times:
Weekdays: 1:30, 3:30 p.m.
Weekends: hourly, 1:00 through 4:00 p.m.
Rotunda

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Henry H. Schulson — Manager of Membership Services
Stanley Oster — Editor
Angela Saccozato — Designer
Sallie Megrin — Copy Editor
Alan T. Traves — Editorial Assistant
Kate Bennett-Marder — Editorial Assistant
Kathleen Cooney — Membership Assistant

Members' Memo
A Change of Face

If you visit the Museum during the summer months, you will undoubtedly notice the expansion and renovation of several Museum facilities. Many areas long familiar to Members will be taking on a new look. This is a sneak preview of what's going to happen.

The largest project in the coming months will be the creation of the Charles A. Dana Education Center. This project, including renovations of existing facilities and a new two-story building, in a small, unused outdoor courtyard, will provide several new lecture and activity rooms. Education Hall, site of many Members' programs, will be converted into a multi-purpose auditorium. The People Center, which has provided "living anthropological" programs for the past ten years, will be refurbished, and now has an endowment allowing it to open to the public months out of the year. These exciting additions to the Museum will allow us to provide an even greater and more varied selection of programs for our Members and other visitors. These facilities will be created with grants from the Charles A. Dana Foundation, the Leonard Foundation (in honor of Frederick H. Leonard), the Edith C. Blum Foundation, the Henry Kaufmann Foundation, and the Charles Kaufmann Foundation.

Those of you who sent suggestions about the Museum cafeteria will be pleased to learn that it too is being renovated. The cafeteria will be replaced by two new facilities, tentatively named "The Court and The Atrium." The Court will be a bright, new fast-food service area, located where the current cafeteria stands. The Atrium, a glass-enclosed restaurant surrounded by a garden court filled with plants and sculpture, will provide a different type of dining ambiance. With a higher quality of food and such pleasant surroundings, it will appeal to visitors who have more time for their meal.

A glass-enclosed balcony will soon extend the Museum Shop into a terrace near the 77th Street elevators. The new area will be devoted to a collection of natural history, birds are also on display. The space downstairs for a greater selection of clothing, and artifacts such as beads and baskets.

In addition to these projects, we will continue our work on the Hall of Pacific Peoples, which will open in 1983; the Hall of South American Peoples, scheduled to open in 1986; and the nearly completed ethnology storage area, providing our priceless collection with the proper conditions needed for its long-term preservation.

Best wishes for a happy summer!

Henry H. Schulson, Chairman

Summer Safari
Tuesday, July 20 and Wednesday, August 11, Auditorium
6:00 and 7:30 p.m. Free and open only to Members

Members of all ages are invited to join us this summer as we screen four classic films on African wildlife. Two of the films—Lion and Giraffe—are part of Jane and Peter Cheramyay's "Silent Safari." They have no narration, but the sounds of the animals and the music provide background music. Baboon Portrait of a Tree and Mammal Portrait of a Spring each explore the interrelationships of life forms within the microcosm of an African environment. They were produced by Joan and Alan Root, two of the world's finest wildlife filmmakers.

Tuesday, July 20
6:00 p.m., repeated at 7:30 p.m. Giraffe (10 mins.)—This film captures the world's tallest mammals as they gallop, graze and sleep under the African skies. We learn, among other things, how a giraffe goes about changing a challenging task of drinking water from a spring.

Mammal Portrait of a Spring (53 mins.) — This film portrays the year-long dependence of life in the Maasai springs of Kenya's Tsavo National Park. The film includes remarkable scenes of a hippo gliding slowly underwater in almost deforeal fashion, and lounging partially submerged to provide a large, easy platform for birds and termites. At the spring, a small water monitor moves at a leisurely pace, punctuated by sudden bursts of activity. Celebrant's feed on fish, others playfully tease a crab, a snake pursues a frog, and, in some rare footage, a crocodile devours an antelope underwater.

Wednesday, August 11
6:00 p.m., repeated at 7:30 p.m. Lion (10 mins.) — The King of the Beasts is shown in this film in his domain on the African plains. We see our cubes walk and run, leaping skills that will help them hunt in the future, and we witness the law of nature as a powerful lioness stalks and runs down the family's meals.

Baboon Portrait of a Tree (53 mins.) — The giant Baobab tree lives the African grassland and semidesert from the Sudan to the northwestern parts of South Africa. Legends claim that it was planted upside down because its branches resemble tangles of roots thrusting upwards. The film shows how the insects, birds and other animals support each other and depend on the Baobab's huge trunk and strange branches for their survival. We see the Wabiher eagle high up in the branches. Offering food to smaller birds from snakes and mice. We see bush babies and fruit bats moving about the branches to lick nectar from flowers. In one incredible sequence, a section of the tree has been replaced with a pane of glass to give us an inside view of a red-tailed mongoose' nest.

To order tickets please use the adjacent coupon. Note that both programs are offered twice: at 6:00 and at 7:30 p.m. on their respective evenings.

Rota

Columbus, Magellan, Cabot, Perry — start with the Norsemen if you will — list all the explorers you can think of who have added to our knowledge of the Americas, yet you will find few, very few, who stood where no man had stood before. From North Greenland to Cape Horn the land had been known to men for many generations. What is more, having explored it, they took with them their women and children and settled most of it.

Who were these original explorers and settlers of the New World? Where and from where did they come, and how did they live? These are the questions which are bound to grow in your curiosity if you find yourself, as did Mrs. Bird and L., during a 1300-mile journey in a 19-foot sailboat, exploring a little known section of southernmost South America where some of the answers lay literally underfoot.

Two years after my first archeological expedition to the Beagle Channel at the southern tip of South America, my wife and I had made our way to Puerto Montt, Chile, one thousand miles to the north, and were preparing to launch our 19-foot cutter. We had purchased it there, and after installing a small engine and fitting new sails and rigging, we were ready to start south on a 1300-mile journey along the coast — just the two of us. We hoped to pick up the trail of the ancestors of the Beagle Channel Indians, whom I had studied previously, and to follow the trail down to that region.

On a map, the maze of islands lying along the coast of South America between Puerto Montt and Cape Horn looks as if it might be the ideal place to go cruising. Indeed, there are hundreds of miles of well-protected channels, and the scenery is superb, with mountains rising steeply from the sea to snow-crowned summits as high as 12,000 feet, and with glaciers pouring down their slopes. As an Englishman I once wrote, however, the weather of the western channels is "enough to make a man's soul die within him." From the Chalcatecas Islands down to the Straits.

The Hesperus, a 19-foot sailboat, in which Junius Bird and his wife spent six months and travelled 1300 miles to the southern tip of South America doing archeological field work.

Out of gas on the Argentine pampas, the car sailed easily along the flats, but needed help going uphill.

In the summer of 1933, Junius Bird found himself in a small rowboat near Baffin Island in the Arctic Circle, trying to keep a rage under the belly of a full-grown and very angry polar bear. He attempted this feat while other members of the Narragansett Explorers to the Arctic Ocean (whose idea it had been to capture the animal) showed encouragement and directions from the safety of the ship, the Mary D. With a handful of terrified colleagues, Bird maneuvered his little craft as close as he dared to the threatening paws and succeeded in making the pass. He had no sooner done so, however, when the angry bear reversed its course and proceeded to climb into the frail and now much smaller boat. Horrified by the grappling paws and barely able to keep his feet on the heaving floorboards, Junius faced the charge of the one hundred pound beast with no more than a dripping spear. Even well-armed hunters have been torn asunder by angry polar bears, but Junius caught the bear's black snout with a strangle thump, and the startled animal heads backwards out of the boat.

Junius Bird was the expedition's chief archeologist, but his natural ability with boats, carpentry and certainly with animals, brought him numerous other responsibilities. He was ingenious with his resourcefulness, and always willing to help a colleague in any way that he could.

On April 2, 1932, Junius Bird died at the age of seventy-four. With his passing, the Museum lost not only an outstanding archeologist, but also a remarkable man. Like few others, he combined his scholarly genius with the pragmatic skills of one who makes his living with his hands.

His own expeditions — much smaller as he frequendy took only his wife Peggy as "field crew" — were a curious mixture of scientific research and personal adventure. On one trip to Tierra del Fuego, with only a twenty year-old Model T Ford for transportation and no prospects for gasoline, Junius harnessed a more abundant energy source — wind power. Rigging a makeshift sail across the back of the Model T, he and his wife sailed their Ford across the pampas, and actually disappomatred when, near the end of the journey, local officials filled the tank with gas. He had relished the idea of entering town under sail.

But the Birds were hardly adventures on a smaller scale. They went to Tierra del Fuego to do archeology.

In the following Letter from the Field, reported from his original account of the expedition, Junius decries this trip and his discoveries at Fult's Cave. These discoveries were of global significance, for here he uncovered proof that early humans, migrating from Asia across the land bridge and down through the Americas, had reached the southern tip of the continent as early as 9000 B.C. At the time of his expedition (1935), field work on the earliest Americans was limited to North America because it was believed that their migration could not have covered such a vast distance by so early a date. His evidence, however, as you will see in this letter, was indisputable. The Fult's Cave data dramatically changed archeology's perception of the distance traveled by early humans, and declared open season in the hunt for traces of the earliest Americans all the way down the 16 thousand mile chain of the New World.

— David Hunt Thomason, Chairman Department of Anthropology

Junius B. Bird in 1946
As before arrow-barroad load of dirt and broken bones roll down the sill. the little things which add together to tell their story are picked out and laid aside.

of Magellan, the annual rainfall is 120 inches or more, and it comes down in an almost steady, light drizzle, blotting out the sun for days and weeks at a time. But I do not want to give the place a worse name than it has, and to prove that its influence is not always so bad I can only say that after five months of rain my wife and I stepped ashore from the rather cramped quarters of the Hesperus still on good speaking terms. Because of the constant rain, the ground is satu-
rated to such an extent that the first move when sti-
fling through a midden, or refuse heap, must always be to dig a drainage ditch. This prevents the tilled or forested land from flooding, but does not check the constant flow which makes hip boots a necessity. The musel shells here have gone beyond the crumbled stage and be-
come a sticky paste. I cannot think of no better test of an archeologist's enthusiasm than to have him work for-
ten hours in the rain on one of these middens. If willing to do it again, he merits his title. Four spec-
ments, counting every piece of worked bone or stone flake, represent an average day's collection, and I have spent a full day in one large midden without finding anything.

At the time of our spring we sailed to Magellanes, a town on the Straits of Magellan, bought a twenty-
year-old Model T Ford truck, and followed the north-
ern shore of the Strait eastward, successfully locating ancient camping places of the Foul Indians.

All of this country along the eastern part of the
Strait and north into the interior is open grassland-
ground, poor raising sheep, but it has been settled only
in the past fifty years. With only a fraction of the
forestland of the forested western coast, it is hard to believe that the frontier is so near to each other. Its one un-
pleasant feature, a strong western wind, has had an
impact on the archaelogist's advantage and disadvantage of the In-
habitants, their campplaces, whenever in shel-
tered places, resulting in a concentration of their broken, discarded or lost belongings where they can
more easily be found.

At the close of a successful summer season, most of our equipment was sent on ahead. But just before
leaving Chilean territory we stopped to look at a cave
which we had heard of but had not been able to visit before. Known locally as Pall Aike cave, it is near the
top of an old volcanic crater ridge but is easily acces-
sible. The interior looked promising, a dry dusty floor
about forty-five feet long by twenty-five feet wide with
plenty of headroom. When, after a few days' digg-
ing, it became apparent that the deposit dated from the
late days of the ice age, we set about exploring it. It was
the best of a joint in the cave and was full of aban-
ned shells, storage vessels, and in some cases, for-
tunately, human feces which are fairly good indica-
tions of the activities that had gone on in that corner of the world. The most interesting find was a camp-
place of tools and bones which seemed to have been
abandoned. The tools included a stone ax and a bone
arrowhead. The bone arrowhead was typical of the
rock art of the Pampa Indians, and it is interesting
that it was found in such a different place.

At first sight, it promised to be little more than pure
exercise, for many tons of stones piled up against the
base of the cliff. The inward slope of the rock
suggested a cave, but it was crooked almost to the top. A
little digging, however, showed that there was an
opening and that we could work without having to
move a yard of stone for every foot of dirt. Dug we did
and broken bones rattled down the sill. The little things
which add together to tell their story are picked out and
laid aside.

The final chapter in the life of the natives was mis-
ning, there being no bones of the domestic horse,
the llama, or any other species of South American
cattle. But we had found bones of a newly reac-
cquired species of deer, which, from the present-day
populations, seems to have been a native inhabitant.

The Indians of the Northern Straits had used,
indeed, round objects of bone, stone, and bone. The
tools were very simple, and the bones were often
broken and used as spearheads. The Indians of the
South Straits had used bones for a variety of pur-
poses, but the ones we found were not of much use
as such. We were more interested in the human
bones, which were very interesting and showed
that the Indians had been living in the area for a
long time.

The bones were very old, and it was clear that
the Indians had been living in the area for a long

The find of prehistoric horse bones in association
with human artifacts dated early human occupation
of southern South America at thousands of years
before scientists had previously believed

happened while it was actually occupied is suggested
by articulated sections of a horse skeleton that were
found directly beneath the stones — a leg and shoul-
der at one place, a head and neck at another — and
by the perfect tools and weapons lying on the same
level.

For some years after that, no one stayed there.
With the passing of time, nature began to smooth
and level the floor, so again people began to step
there. In the interior, the first group of tribes had disappeared
with the horses. The newcomers used different
weapons and lived mainly on four-legged and bird
meat. Later work at Pall Aike and others showed
that they had the spear bones tipped with bone.

A third group's arrival is suggested by a change
from bone points to a new kind made from stone and
by the appearance of bolas, a very effective weapon
mode of two or three stone balls fastened together by
strings and hurled at birds and larger game.

Then, as abruptly as they came, the things belong-
ing to this third group leave the picture. If we read
the signs correctly, their right to the land was disputed
by a fourth tribe that used small, rough arrow points.
At another site on the level of the site of the end of this
third period, two group burials were found containing
the remains of men and women and a baby. One of
the skulls shows an ugly gaping wound. The absence
of weapons belonging to the third type in the sub-
sequent debris explains the outcome.

Shortly before the beginning of Palagónia's written
history, perhaps in Magellan's time, the small arrow
points of the Ona Indians record the presence in Fell's
Cave of perhaps its last long-term inhabitants.

Later, at Pall Aike cave, we found the same se-
quences, and recovered a greater amount of material
to support and extend our data. Using this, we were
able to eliminate some of the questions of which had al-
ready arisen and strengthen our conclusions. If a
book such as had been kept in the caves during the
voyages that they were occupied, the story could
scarcely have been more plainly written.
The Membership Office cordially invites Participating, Donor and Elected Members to a private viewing of

Aztec Mexico: Discovery of Templo Mayor
and a screening of the Academy Award winning film Sentinels of Silence
Tuesday, July 27; Monday, August 2; or Tuesday, August 3

Aztec Mexico: Discovery of Templo Mayor. This is the first major exhibition in the United States of artifacts from the great temple of Tenochtitlan, the ceremonial and economic center of the Aztec empire. Begun in 1978, it has been one of the most exciting archeological diggs of this century. The American Museum of Natural History is the only stop in the United States for the exhibition, which showcases more than one hundred treasures from the temple ranging from painted ceramics to jewelry, and dating from about 1000 B.C. to the 16th century A.D. (See article page 1.)

Sentinels of Silence. (20 minutes: Shown continuously each evening.) This beautiful film, winner of two Academy Awards in 1972, provides stunning panoramic views of the ruins of pre-Columbian cities in Mexico. Narrated by Orson Welles and filmed almost entirely from a helicopter, the film includes visits to Teotihuacan, a pre-Aztec center, the Mayan centers of Palenque in the Lacandian jungle and Uxmal in the Yucatan Peninsula, and Monte Alban, a Zapotec center near Oaxaca.

To make reservations for one of the three evenings, use the adjacent coupon.

Please indicate a first and second choice of both dates and times.

<table>
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<tr>
<th>Dates:</th>
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<tr>
<td>Tuesday, July 27</td>
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Number of People:

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Address:

City: State: Zip:

Daytime phone:

Membership category:

Please mail with a self-addressed, stamped envelope to Members’ Temple Viewing, Membership Office, American Museum of Natural History, Central Park West at 79th St., New York, NY 10024

Aztec Worlds
Four Thursday evenings beginning July 8
7:30 to 9:00 p.m.
$22.50 for Members
$25.00 for non-members

Ironically, although the Spanish destroyed the Aztec empire in 1521, the conquerors wrote detailed, illustrated accounts of Aztec customs and daily life. From these we know more about the Aztecs than about any other Mesoamerican people.

As a prelude to the opening of the exhibition Aztec Mexico: Discovery of Templo Mayor, Dr. Esther Pasztory of the Department of Art History and Archaeology at Columbia University will discuss Aztec culture in the context of the broader development of civilization in Mesoamerica. The unique art and architecture of the Aztecs will be analyzed in a religious and historical context, and their social, economic and religious systems will be explored.

July 8 Aztec History and Religion. The first session introduces Aztec ideology, the calendar and religious system, and compares the Aztecs’ view of their history with what the archeological record reveals.

July 15 Architecture and Sculpture of the Aztec Capital, Tenochtitlan. In this session the evolution of Aztec monumental sculpture is analyzed from its earliest beginnings to the great sculptures, such as the Coolcuitl and the Calendar Stone.

July 22 The Elite and Popular Arts. This session contemplates the Aztec concept of treasure — the elite arts of gold, feather and ladipary work — with the stone and terracotta images of the deities of commoners. The role of the Aztec artist will be discussed using 16th century texts and Aztec poetry.

July 29 (5:30-7:15 p.m.) Private Viewing of the Exhibition Aztec Mexico: Discovery of Templo Mayor.

Templo Mayor. Recent excavations of the temple give insight into Aztec history, religion, and economics. Five thousand buried offerings have been excavated so far, including imported objects and heiroglyphic. The social, economic and religious significance of burying precious objects within the temple complexes will be highlighted.

To register for the course, or for more information, call (212) 873-7507.

Image of a carved gold and silver statue found in an aztec temple. Photograph by Preston Cloud, Smithsonian Institution of Archaeology and History.
A Symposium on Aztec Culture
Wednesday, August 4
7:30 p.m. Auditorium Free

Dr. Eduardo Mats Motezuma
General Coordinator, Great Temple Project

Dr. Emily Umbarger
Guest Curator of Aztec Mexico exhibit

Dr. Henry B. Nicholson
Professor of Anthropology, UCLA

Dr. Miguel León-Portilla
Author of Aztec Thought and Culture

Dr. Gordon Ekholm, Moderator
Curator Emeritus, Department of Anthropology, American Museum

For information call (212) 873-7507

Excavaciones en el Templo Mayor
(lecture in Spanish)
Thursday, August 5
7:30 p.m. Auditorium Free

A slide-illustrated lecture in Spanish of the history of the excavation of the great temple of Tenochtitlán in Mexico City.

With Dr. Eduardo Mats Motezuma
General Coordinator, Great Temple Project

For information call (212) 873-7507

Museum Notes

Special Exhibitions

Aztec Mexico: Discovery of Temple Mayor. July 27 through October 6, in Gallery 3. A collection of treasures exca-vated from the great temple of Tenochtitlán, the ceremonial and commercial center of Aztec Mexico. Includes masks, jewelry, skulls and numerous other objects and artifacts that give insight into the social structure of the Aztec.

Exhibit Opening.

Most of the artifacts in this exhibit were on view at the original site of the temple for the first time after the Aztecs were driven out of Mexico City by the Spanish conquistadors. The Aztecs had defied the Spanish by building on the foundations of the Temple Mayor, the Aztec name for the Great Temple of the Aztec god of war.

The exhibit spans the period from the early 13th century, when the city of Tenochtitlán was founded, to the conquest of the Aztecs by Hernán Cortés in 1521. It features more than 300 items, including many never before displayed in the United States. The exhibit is on view in Gallery 3 through October 6.

Programs and Tours

Museum and City Tours. Tours of the Museum and nearby areas. Tours are offered daily at 11:00 a.m., 1:00 p.m., and 3:00 p.m. The tours last approximately 90 minutes and are offered on a first-come, first-served basis. Participants meet at the Museum entrance. Please note that there is a limited number of spots available for each tour.

Museum Highlights.

eople on the Frontline: The Mexican Revolution. This exhibition focuses on the role of women in the Mexican Revolution, which took place between 1910 and 1920. It features a selection of works from the Museum's permanent collection, including paintings, photographs, and documents. The exhibition is on view in Gallery 1 through September 30.

The American Museum of Natural History is proud to announce that the film HAIL COLUMBIA will join the films TO FLY and LIVING PLANET in the Naturemax Theater. HAIL COLUMBIA follows the first flight of the space shuttle through its initial preparation and takeoff, and dramatic re-entry — all on the enormous screen of the Naturemax Theater. For more information and new schedules, call (212) 312-8000.

The Department of Education presents

Museum Information

Museum Hours. Monday, Tuesday, Thursday, Saturday: 10:00 a.m. to 5:45 p.m; Wednesday: 10:00 a.m. to 9:00 p.m.

Cafeteria Hours. Daily, from 11:00 a.m. to 4:45 p.m.

Planetarium Events

The Incredible Universe of Albert Einstein. Through August 31. The remarkable theories of Albert Einstein and the impact they have had on our understanding of the universe are the subject of the new show. Explore the space-time continuum, black holes, gravity waves, time, and the many other realms of his vast studies.

Wanderers in the Night. August 3 through September 6. Learn the secrets of the night sky, their legends and actual origins, and what modern science has determined about their properties. Explore the night sky with the naked eye and with telescopes. See the monthly full moon.

Astronomy and Science Events

Journey of the Voyager. Thursday, August 4, 7:30 p.m. Join the Voyager spacecraft as it explores the outer reaches of our solar system. Presented by the Museum's own astronomers.

Museum Parking Lot. Located on 81st Street, Open Monday through Thursday, 9:30 a.m. to 9:30 p.m. for Museum visitors only. Parking rates are $5.00 per day.

Southwestern Research Station. Museum Members are invited to the Southwestern Research Station on Saturday, September 10, 1977. Members may attend the lecture and tour for $10.00 per person. Non-members may attend for $15.00 per person. Members are encouraged to attend this unique event and to bring their families.

Naturemax Theater.

The Planetarium is closed for renovations. The Planetarium is sched- uled to reopen in October.

For more information, call (212) 873-7507.
### July 1982

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<td>Earth at Aphelion</td>
<td>Full Moon (Total Eclipse Visible From New York)</td>
<td>First night of the Aztec World lecture series with Dr. Edith Folan</td>
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<td>6:00 and 7:30 p.m. Summer Safari Family Members Program with the films &quot;Graff and Montez: Portrait of a Spring Auditionum&quot; and &quot;Concerts and Carnivals&quot; (See page 3)</td>
<td>7:30 p.m. Members' Reception for Temple Mayor exhibit Reservations required (See article 6)</td>
<td>7:30 p.m. Amateur Astronomers Association of New York City Star Party at the Haydon Planetarium Free</td>
<td>Delta Aquarid Meteor Shower</td>
<td>Summer Safari. Family Members' Program with the films &quot;Lion and Rhino: Portrait of a Zoo&quot; and &quot;Concerts and Carnivals&quot; (See page 3)</td>
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<td>7:30 p.m. First Quarter (half moon) Piring Meteor Shower</td>
<td>6:00 and 7:30 p.m. Summer Safari Family Members' Program with the films &quot;Graff and Montez: Portrait of a Spring Auditionum&quot; and &quot;Concerts and Carnivals&quot; (See page 3)</td>
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**American Museum of Natural History**
Archeologist in the Field

Tuesday, November 30, 7:30 p.m. Auditorium
Free and open only to Members

Dr. David Hurst Thomas, Chairman of the Department of Anthropology and leader of the St. Catherines Island archeological project, will take time out from his research to give a special Members' Evening lecture this month. Using slides and film, he will discuss the fascinating research at St. Catherines Island, showing the development of an archeological project over time, and will announce some of the new discoveries that have highlighted this past year.

In 1974, Dr. Thomas and a group of archeologists from the Museum's Department of Anthropology began excavations on St. Catherines Island off the coast of Georgia. They uncovered a wealth of archeological information, including some of the oldest burial mounds in the American southeast. With this as an impressive beginning, they launched a number of projects to explore the human ecology of the former inhabitants of the island. Given the wealth of archeological history and information available to them on the island, Thomas and his crew were cautious about merely mining the spectacular sites for artifacts. They were determined, for the thoroughness of the excavation, to recover an unbiased record of the past four millennia of human history on the island. First, they took a random survey of 20% of the island, surveying one hundred meter squares across its width — through rainforests, swamps, savannas and beaches — until they had a statistically unbiased data base. Then, they could begin to more accurately piece together the transition from the hunting-gathering way of life to sedentary village existence.

The current aim of the St. Catherines archeological project is to document the difficulties imposed by European contact on the island's inhabitants from 100 years before the Spanish Conquest to 100 years after. Because the Guale Indians were taken to St. Augustine after the Spanish abandoned their mission at St. Catherines, little or no prior ethnohistoric record exists, and the ethnographic sources conflict with one another. The only definitive answers are in the archeological record.

The lecture will also look at the amazing technology that has come into play in these excavations. Using radio-carbon methods, a proton magnetometer, infra-red photography, electronic resistivity, and complex computer mapping, the project can date with extreme accuracy the years that deposits were made. By using shells, which have been discovered to grow rings in much the same way trees do, they can even tell the season in which it was deposited.

Dr. David Hurst Thomas (standing at top of photo) with some of the excavation crew at St. Catherines Island. This month Dr. Thomas will give Members an overview of this fascinating eight-year-old archeological project.

Caribbean Festival

The music, dance, films and crafts of the Caribbean will be the subject of a month-long celebration of the Caribbean cultures. Each weekend will adopt a different focus culturally and geographically.

Page 2

Paper Magic

Once again Members may learn the art of folding paper into animals, stars and geometric shapes at this year's Members' Origami Workshop.

Page 3

The Natural Selection

Give gifts of Membership this holiday season and open doors to your friends and family for a whole year. Not only do you give them Natural History magazine, the Naturemax Theater and free admission to the Museum, but you support the Museum, as well.

Page 5

The Hunt for Early Humans

Dr. David Price-Williams will lecture on the archeology of Swaziland and how this has modified a number of accepted theories on the development of early humans.

Page 2

Star Gods Preview

Members will have an opportunity to preview the exhibit on Star Gods of the Ancient Americas on two evenings this month.

Page 4
Dolphins and Porpoises  
Wednesday, November 17, 7:30 p.m. Auditorium. Free

Why do schools of dolphins strand themselves on beaches? Why do they ride the bow waves of moving boats? Can they really "talk" to humans, guide ships out of danger, and perform other noble deeds?

Richard Ellis, author of the highly praised The Book of Whales and Dolphins, will give a lecture on the subject of his new book, Dolphins and Porpoises. The lecture, like the book, will cover the forty-three species of dolphins and porpoises including the bottlenose dolphin and killer whale, and various rare and exotic species such as the Ganges River dolphin (one of five freshwater species), the pygmy killer whale, and the spinner and spotted dolphins which have been threatened by the tuna fishing industry in the Pacific Ocean.

Using slides of all forty-three species, he will discuss their natural history, acoustic capabilities, involvement with humans, and conservation problems.

Richard Ellis is currently recognized as one of the foremost painters of marine natural history subjects in the United States. Among other things, his paintings of whales have been successfully employed in campaigns to name four whales as slate mammals: the sperm whale in Connecticut, the gray whale in California, the humpback in Hawaii, and the right whale in Massachusetts. The lecture, sponsored by the Department of Education, will be free to all Museum visitors. Seating will be on a first-come first-served basis so Members are advised to arrive early to avoid disappointment.

The dusky dolphin is one of forty-three species of dolphins and porpoises. Richard Ellis will give a slide-illustrated lecture on these remarkable animals, their habits and their intelligence.

Early Humans in Africa  
Wednesday, November 24, 7:00 p.m. Auditorium. Free

In the late 1930s, one of the finest sequences of Stone Age human remains ever uncovered was found by archeologist Raymond Dart in what is now Swaziland. These bone fossils, dating back to the Middle Stone Age, are potentially the oldest known members of our own subspecies Homo sapiens sapiens. Unfortunately tons of bat guano wrecked the cave before any excavations could take place, and the bones could not be dated with certainty. The search soon began for another cave where the bones could be studied without such a formidable obstacle.

Five years ago, Dr. David Price Williams, commissioned by the King of Swaziland to examine the total prehistoric background of Swaziland, also began looking for such a cave. In the summer of 1981 he found one in pristine condition in the Usutu Gorge in Swaziland. About the size of two Olympic-sized swimming pools, the cave is the largest ever seen in the area. The local inhabitants call it "the place of the dead pots" after the pot marks in the roof caused by the erosion of hotly lava.

Rich in deposits, there is evidence of Middle Stone Age manufacturing debris, and it is likely that Dart's cave demonstrated that fossils of human bones have been preserved.

In a special lecture at the Museum entitled Early Man in Africa, Dr. Price Williams will discuss the archeology of Swaziland, and how fascinating new evidence has emerged to challenge long-held European views on the phases of human development. He will also show how recent theories in African prehistory link seven phases of prehistoric evolution with major climatic oscillations.

Dr. Price Williams is Lecturer in Archeology at the University of London, and the Director of the Swaziland Research Association.

The lecture, sponsored by the Museum's Department of Education in cooperation with EARTHWATCH, will be free to all Museum visitors. Seating will be on a first-come first-served basis, so Members are encouraged to arrive early to avoid disappointment.

Dr. David Price Williams has spent the past five years exploring the archeological pre-history of Swaziland. His lecture will present an overview of these studies.

Caribbean Festival Month  
Weekends in November. Leonhardt People Center

A month-long celebration at the Museum will focus on the music, dance and other arts of the Caribbean. Programs ranging from a live salsa demonstration to the re-telling of stories from the Haitian oral tradition will bring the islands to the heart of Manhattan. All of the programs will be on Saturdays and Sundays in November, from 1:00 to 4:30 p.m., and will be free to all Museum visitors.

While the focus of November will focus on the Caribbean as a whole, each individual weekend will have a more specific focus. On November 6 and 7 there will be programs of salsa music in the Leonhardt People Center, with a live demonstration of the music form by Johnny Colon's Orchestra (Kaufmann Theater, 1:00 and 3:00 p.m.; free).

On November 13 and 14, the focus will be on Cuba and Cuban music and dance by Grupo Kubo.

On November 20 and 21 demonstrations will take visitors to Puerto Rico with performances by the Ballet de Puerto Rico (junior company); a demonstration of the traditional craft of building and playing the "quatro," a Puerto Rican instrument similar to the guitar.

On November 27 and 28 visitors will journey to Haiti (Saturday) and the Dominican Republic (Sunday). Programs will include the influence of voodoo on the dances of the Caribbean, and dance performances by Trup Shergo and Nicholas Cordery in Co Jodo.

Films relating to the Caribbean will also be shown on most weekends. For a complete listing of all the programs scheduled for the Caribbean Festival Month, please check the calendar on page 8.

Archeologist in the Field  
Tuesday, November 30

This program is open only to Members of the Museum and their guests. Participating, Donor, and Contributing Members are entitled to three free tickets. Associates are entitled to one. Additional tickets may be purchased for $4.00 each.

Please send me ________ tickets.

Name: _______________________________________

Address: ______________________________________

City: ________________________________________ State: _______ Zip: __________

Daytime phone: ____________________________

Membership category: _______________________

Please mail with a self-addressed stamped envelope to Archeologist in the Field, Membership Office, American Museum of Natural History, Central Park West at 79th Street, New York, NY 10024
Members’ Origami Workshop
Saturday, December 4, 10:30 a.m. to 4:30 p.m.
Basement Reception Area. Free and open only to Members

Members of all ages are invited to practice the ancient art of paper folding at the fifth annual Members’ Origami Workshop. Under the careful tutelage of Alice Gray, Michael Shall, museum volunteers, and volunteers from the Friends of the Origami Center of America (the same people who create the Museum’s extraordinary Origami Holiday Tree each year), Members will magically transform squares of paper into parasites, stars, blow-up bunny rabbits, foxes, and trike airplanes. There will be special sessions for youngsters ages four and five who will learn to fold graceful swans, sailboats, purses and candy canes.

The program is free and open only to Members of the Museum. We will supply all materials; you need only bring your nimble fingers. To register, please use the adjacent coupon. Early registration for the limited number of places is strongly advised.

Behind the Scenes Tours: Department of Vertebrate Paleontology
Sunday, November 14 and Wednesday Evening, November 17
$6.00 and open only to Members

Behind-the-Scenes Tours
Tours will leave at fifteen-minute intervals beginning at 10:30 a.m. on Sunday, November 14, and 1:15 p.m. on Wednesday, November 17. We will send you a confirmation card by mail which will indicate the exact time your tour will start.

Name:
Address:
Daytime phone:

City:
State:
Zip:

Members’ Origami Workshop Saturday, December 4
I would like to register for the time marked below. (Please indicate a first, second and third choice of times.)

10:30 a.m. 11:30 a.m. 1:30 p.m.
2:30 p.m. 3:30 p.m.

Number of People for Regular Workshop:
Number of People for Young Children’s Workshop (ages four and five):
(Children must be accompanied by an adult.)

Name:
Address:
City:
State:
Zip:

Daytime phone:
Membership category:

Please mail with a self-addressed, stamped envelope to: Origami Workshop, Membership Office, American Museum of Natural History, Central Park West at 79th Street, New York, NY 10024.

Sold Out from October Rotunda
(More Behind-the-Scenes Tours will be held this spring)

Enclosed is my check for $ to reserve places at $6.00 each for the Behind-the-Scenes Tour.

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

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Photography by Robert She doubt

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Please make check payable to the American Museum of Natural History and mail with a self-addressed stamped envelope to: Behind-the-Scenes Tours, Membership Office, American Museum of Natural History, Central Park West at 79th Street, New York, NY 10024.
Moana of the South Seas
Tuesday, November 9, 7:30 p.m. Auditorium. Free and open only to Members
Wednesday, November 10, SOLD OUT from October Rotunda

"The film Moana of the South Seas," wrote New York Sun critic John Gefsion in 1926, "is unquestionably a great one, a poetic record of Polynesian tribal life, its ease and beauty, and its salvation through a painful rite."

Moana of the South Seas was filmmaker Robert Raherty's silent masterpiece. Monica Flaherty Frassetto, Robert Raherty's daughter, was four years old at the time the film was made, yet she accompanied her parents to the islands for their endeavor. More than fifty years later, and with the help of the English-speaking chief Valio Alailima, she has undertaken the enormous project of assembling a sound track for the film. Using nine separately recorded tracks — some of Samoan chants, songs and dance music, some of the natural sounds of the islands, some of native voices carefully overdubbing what the original "action" remember the dialogue as being — she has created an extraordinary replica of what might have been the original sound.

Ms. Flaherty Frassetto will introduce and discuss this new sound version of her father's film at a special Members' screening in November.

The film, in portraying the island's everyday pursuits, captured both the inner spirit and the lifestyle of the Samoan people. It stars Moana, the son of a villager who worked for the Flaherty's during the filming, and Fa'amusa, the daughter of a local chief.

The program on November 10, originally advertised in the October Rotunda, has been sold out. To order tickets for the additional evening, Tuesday, November 9, use the attached coupon.

Moana Tuesday, November 9
This program is open only to Members of the Museum and their guests. Participating, Donor, and Contributing Members are entitled to four free tickets. Associates are entitled to one. Additional tickets may be purchased for $4.00 each.

Please send me tickets:

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

Please mail with a self-addressed stamped envelope to: Moana, Membership Office, American Museum, Central Park West at 79th Street, New York, NY 10024.

Star Gods of the Ancient Americas
Monday, November 29, 5:30 to 8:30 p.m. Tuesday, November 30, 4:00 to 7:00 p.m.

Throughout the western hemisphere, the original Americans built large, complex structures for astronomical observation, structured their lives and religions according to the heavens, and used astronomical imagery in their art. Star Gods of the Ancient Americas is the first major exhibition ever to present this astronomical imagery and to compare the astronomical beliefs and practices cross-culturally. Images of the sun, moon, planets and stars are reflected in the 140 artifacts, collected from Tierra del Fuego to the Arctic.

Highlights of the exhibition include a gold Peruvian calendar dated about A.D. 900, an elegantly carved Maya vase depicting the sun god with celestial serpents, and a group of seven-foot-high Tlingit "moxo toots" from the Pacific Northwest.

The exhibition, organized by the Museum of the American Indian, will be free to all Museum visitors. For the Members' Preview your Membership card is your ticket of admission for you and your guests. Please use the lower level Central Park West or the Parking Lot entrance.
It’s a Wise Bird
That Knows a Good Deal

Members naturally select the American Museum of Natural History for their holiday shopping. Because of their special relationship with the Museum, they enjoy these special discounts:

10 to 40% Discount on These Special Books

The editors of Natural History magazine looked at hundreds of books to select these eight magnificent publications as holiday suggestions. All are recent publications in the field of natural history, and all have been approved by Museum scientists and editors. Fascinating in their content, these books are clearly written and magnificently illustrated. As a special offer to Members of the Museum, any or all of these books are available at 10 to 40% off the publishers’ list prices. In addition, a handsome gift card will accompany each book.

Galapagos: Islands Lost in Time
Tui de Roy Moore. $35.00 $27.00

Life on Earth
David Attenborough. $28.00 $19.00

To the Ends of the Earth
John Perkins with the American Museum. $27.50 $23.00

Year of the Greylag Goose
Ronald Lewin $39.00 $13.00

Mars as Art
Malcolm Kirk, Andrew Stratham. $49.00 $40.00

Spirals from the Sea: An Anthropological Look at Shells
Jane Salter, Frances Gill. $35.00 $28.00

The Life of the Humpback
Fred Berghammer. $23.00 $15.00

Dinosaurs, Mammoths, and Camerons: The Art of Charles R. Knight
Sylvia Czerkas, Donald Glut. $23.00 $15.00

For a brochure with more information, write:
Members’ Book Program, Room 137, American Museum of Natural History, Central Park West at 79th Street, New York, N.Y. 10024. Or call (212) 873-1498. When ordering include shipping charge of $2.50 for the first book, $1.00 for each additional book. No shipping charge for five or more books.

20% Discount on Gift Membership

You know what riches the Museum has to offer: the magnificent exhibitions and extraordinary collections, Natural History magazine and the fascinating programs. So why not share this wealth by opening our doors to your friends and family this holiday season. As a special holiday benefit, Members may give gift memberships at 20% off the regular price. We will enroll them immediately as Members and send you a special announcement card to give to them. And just look at what you will be giving them:

Associate Membership ($15, but $12 for you!)
• Natural History magazine for a full year
• Free admission to the Museum
• A free ticket to the Naturalism Theater
• Discount at all Museum Shops

Participating Membership ($30, but $24 for you!)
• All of the above
• Rotunda, the Museum’s newsletter
• Six free tickets to the Naturalism Theater
• Free admission to the Museum for family and guests
• Discounts on all Planetarium admissions
• Special viewings of exhibitions
• Programs and lectures each month (just look at the opportunities in this issue!)
• And much, much more

Yes! Memberships are a natural selection for my holiday shopping! If you have more than one, enclose their names and addresses on a separate sheet of paper. Mail to the Membership Office, American Museum of Natural History, Central Park West at 79th Street, New York, N.Y. 10024.

I enclose a check to the American Museum of Natural History for $ for the enclosed Membership. Please bill me after the holidays.

Please charge my Mastercard VISA
American Express

Card number: Expires

Signature: For immediate enrollment save time by calling our toll-free number:
(800) 247-5470

10% Discount at Museum Shops

Unique gift items from around the world make the Museum Shop the natural selection for your holiday shopping. Not only do Members receive a 10% discount on all items they purchase, but you can probably find a special gift for anyone you know. Here is a list of just some of the items:

• Native American jewelry from rings to concha belts
• African leathe cloth (the “cloth of kings”)
• Glittering chunks of amethysts, calottes and other minerals
• Tyrannosaurs, Brontosauruses and other dinosaurs!—
• Mexican wool rugs woven in earth tones and blues
• A shy steel collection of bird books (the largest in NYC)
• Note cards by the hundreds with paintings and prints of your favorite natural history subjects

So come in and explore. There are items for both adults and children, with new creative ideas for your shoppers list.

Please enroll the following as:
Associate Membership ($12 at the Members’ discount)
Participating Membership ($24 at the Members’ discount)

Name: Address:
City: State: Zip: This Membership is a gift for:
Name: Address:
City: State: Zip:

(800) 247-5470
Members' Tour of the Month
Endangered Species

Beginning in December, the Membership Office will once again offer special Member-
ship tours focusing on specific exhibition halls, collections, and natural history themes. All
tours will be led by volunteers from the Museum’s Highlights Tour program.
Endangered species will be the theme for the December tour. The tour will visit the
Halls of African and Asian Mammals, Ocean Life, Am-
phibians and Reptiles, and Oceanic Birds to learn about the
habitats and habits of some of the world’s most threatened
animals and the reasons for their endangerment. The tour
will include a look at the Asian
elephant, the African
termites, the monarch
butterfly, and New Zealand’s
Kaka Po bird.
The tours are open only to
Members of the Museum. To
register, use this coupon.

Members' Tour Endangered Species

Please indicate a first, second and third choice of times (if possible).

Friday, December 3 at 6:30 p.m.
Saturday, December 4 at 10:30 a.m.
Sunday, December 5 at 10:30 a.m.
Wednesday, December 8 at 6:30 p.m.
Saturday, December 11 at 10:30 a.m.
Sunday, December 12 at 10:30 a.m.

Number of People:_____

Name:_____

Address:_____

City:_____ State:_____ Zip:_____

Daytime phone:_____

Membership category:_____

Please mail with a self-addressed, stamped envelope to: En-
dangered Species, Membership Office, American Museum of
Natural History, Central Park West at 79th Street, New York,
NY 10024. Registration closes November 21.

African-American Lecture Series

Wednesdays, November 3, 10, 17, 7:00 p.m.
Leonhardt People Center. Free

On three consecutive
Wednesdays in November, the Museum will present an
African-American Lecture Series. The lectures will focus
on areas of cultural contribu-
tion made by African-
Americans in the United States.
All the lectures, presented by the African-American pro-
gam of the Department of Education, are free to all
Museum visitors. The limited
seating will be on a first-come,
first-served basis, so Members
are encouraged to arrive early
to avoid disappointment.

Wednesday, November 3
Black Religious Sounds in Africa: Origins of Gospel
Music. Mr. L.D. Frideres will lead a musical celebration
from the early spiritual form
out of slavery to the influence
of gospel music on current
musical trends.

Wednesday, November 10
Historical Development of Jazz. Beginning with the New
Orleans jazz style, the Leonard
Golub Quintet and special
guest Thelma Roper will trace
the historical development of
jazz. Demonstrations will in-
clude the New Orleans and
Chicago styles, big band and
swing, bebop, cool jazz, hard
bop, the avant-garde and pre-
tent day fusion styles.

Wednesday, November 17
The Alani Tradition. The rich and colorful heritage of
the Alani kingdom of West Afri-
cia will be discussed with
emphasis on the religion, his-
tory and culture. The lecturer
Amadinda Bedjisko, an Alani
priestess at the Bomuel-
Dremsawouz temple in
Queens, NY, shows the
significance of the tradition of
the Alani people in their con-
temporary American setting.

Songs of Nature

Saturday, November 20, 11:00 a.m. 1:30 and 3:30 p.m.
Kaufmann Theater. Free to Members. $2.50 for non-members

Plants, animals, and
the changing seasons have pro-
vided inspiration for the works
of poets and musicians for
centuries. The Orpheus
Chamber Singers will perform a
delightful sampling of such
works when they present Hey
Ho to the Greensward; Sing a
Song of Nature at this
month’s Family Members’
program.

The program will include
songs by Franz Schubert
and Wolfgang Mozart and verse by
Germaine Stein and Ogden
Nash. There will be a spiritual
about Noah’s Ark, a witty
piece describing the confronta-
tion between an elephant and
a grasshopper, and a 700 year
old English canon, Sumer is
icumen in. The audience will be
asked to imitate the sounds
of animals before the 16th
century Italian song La Gallina
(The Hen) and join in the
singing of the German round
Lachend, Lachend (Laughing,
Laughing). The recorder, per-
cussion instruments, and a
dance or two will accompany
the song and verse.

The program is recom-
ended for all ages. For tick-
ets call (212) 873-1327.

Archeoastronomy of the Americas

Wednesday, December 1, 8, 15. Auditorium. 7:00 p.m.
$16.20 for Members. $18.00 for non-members

Archeology and astronomy
each evoke an air of mystery,
and even foreboding. The emerging
discipline of archeoastronomy
draws on these two fields for an
understanding of the as-
tromonical beliefs and prac-
tices of Native Americans.
In conjunction with the spe-
cial exhibition “Star Gods of
the Ancient Americas” from
the Museum of the American
Indian, opening on December
3, three distinguished scholars
will present slide-illustrated
lectures and discuss how
astronomy is and was woven
into the myth, religion, and
astrology of the native peoples
of the Americas.

Dec. 1 South American Ar-
cheoastronomy: Into As-
tromy and Plaza Ground
Drawings. Professor Anthony
F. Aveni, Department of
Physics and Astronomy, Col-
gegate University, and author of
Starry Watchers of Ancient
Mexico will discuss since their
discovery in the 1930’s, the immense, enigma-
tic ground drawings near
Nazca, Peru, have puzzled sci-
enists. Professor Aveni pres-
ts some new and interesting
theories about their pur-
pose and compares them to
the sacred lines that radiate
from the center of the Inca
capitol of Cuzco.

Dec. 8 Astronomy and Des-
igning Among the Aztec and
Maya. Dr. Susan Milbrath,
Guest Curator, “Star Gods of
the Ancient Americas,” and
art historian specializing in as-
tronomical imagery.

The Aztec and Maya of
Mesoamerica blended as-
tronomy, astrology, and myth
into a unique world view.
Cosmic catastrophe was actu-
ally built into their calendar.
Dr. Milbrath discusses the way
that the Aztec and Maya ex-
pressed cosmology, astron-
omy, and fatalistic world
views in art myth, and reli-
gion.

Dec. 15 Native American
Perspectives of the Sky. Von Del
Chamberlain, Astronomer, Na-
tional Air and Space Museum,
Smithsonian Institute, and
author of When Stars Came
Down to Earth: Cosmology of
the Skidi Pawnee Indians of
North America, presents a
summary of the major astro-
nomical phenomena that
Native Americans observed and
interpreted in their daily lives.
He will also discuss his current
research on Winter Count rec-
cords kept by the Skidi.

Navajo star and constellation
depictions, and sky theology
of the Skidi Band of the Paw-
nee.

If available, single even-
ing lecture tickets may
be purchased for $7.50
outside the Main Au-
ditorium on the evenings
of these three lectures.
To register please use the
adjacent coupon.

Archaeoastronomy of the Americas

Yes, I would like to take this course for the three Wednesday
evenings in December.

Number of tickets:__
Total amount enclosed:__ $18.00 ($16.20 for Members)*

Note that only Participating, Donor and Contributing Members may
take this course.

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take this course.
A weekend of videotape documentaries on Native Americans and their ways of life will be shown at the American Museum of Natural History as part of the Museum of the American Indian's Film and Video Festival. Because of the relative insensitivity of video and its flexibility as a medium, it has been taken up in many areas of documentary filmmaking, including ethnography.

The video presentations, offering a wide range of topics concerning Native American traditional and contemporary lifestyles, will be presented in four sessions: one each during the morning and afternoon of Saturday and Sunday. Sponsored in part by a grant from the New York State Council on the Arts, the programs will be free to all Museum visitors.

Seating will be on a first-come, first-served basis.

For further information call the Museum of the American Indian at (212) 256-1500.

Saturday, November 20
The Circle of Life (10:15 a.m. to 12:15 p.m.) explores several tribal lifestyles and tribal histories. One of the three videotapes is "Salmon on the Run," a documentary on California's salmon fishing crises and its impact on the traditional fishing done by Yurok Indians.

Conservation issues (1:15 to 5:00 p.m.) focuses on Native American rights to traditional lands, religious practices, as well as control over determining their future as peoples. The four videotapes include "They Never Asked Our Fathers," a study which traces the forced changes in the lifestyle and economy of a Yupik Eskimo village in Alaska.

Sunday, November 21
Legacy for the Future: Traditional Art and Custom (10:15 a.m. to 12:45 p.m.) reflects the concern within Native American communities with documenting historical and artistic traditions, both as a legacy for the young and as a means of education for the general public. The film videotapes include "Sneakers," which shows how several Cree men and women from the Fort St. John area are trying to create an intricate style of snowshoe. Special exhibitions (1:45 to 5:00 p.m.) explores respect for the land, communally observed rituals, and the role of harmony in religious practices. The six videotapes include "The Green Corn Festival," an ancient ceremony recently took place at a traditional Creek dance ground in Oklahoma.

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**Museum Notes**

**Special Exhibitions**

- **Natural History Photo Competition** Through December 15. In the Axley Gallery. A collection of prize-winning photographs in several areas of natural history.
- **Naturemax Theater** Featuring the films 'To Fly,' 'Hail Columbia!' and 'Living Planet,' this extraordinary film experience combines a screens that is four stories tall and more than sixty feet wide with a six-channel sound system. For information call (212) 466-0900.

**December at the Museum**

- **Members' Origami Workshop** Saturday, December 11 at 3:00 p.m. for adults and children. Learn to fold origami creations. Each session is limited to 15 people. For information call (212) 466-0900.
- **Dinorah and His African Dancers, Drummers and Singers** Sunday, December 12, 1:00-3:00 p.m. at Kaufmann Theater.
- **Bloomongdale Chamber Orchestra** Sunday, December 19, 3:00 p.m. Kaufmann Theater.

**Membership Benefits**

Participating and Donor Members receive:

- Free admission to the Museum for up to two adults and four children.
- One year's subscription to Natural History magazine.
- Six free tickets per year to the Natural History Theater.
- One year's subscription to the newsletter Rotunda.
- 10% Discount at all Museum Shops and on most courses at the Museum.
- Behind the Scenes Tours, special receptions for new exhibitions, evening and weekend programs, and other special events.

**Programs and Tours**

- **Museum Highlights Tour** To introduce the new Museum visitor as well as the veteran Museum goer, the Museum Highlights Tours offer fascinating glimpses into the history and exhibits of the Museum's most popular halls. The tours leave regularly from the second floor Information Desk. If you wish to join a free tour, please ask at the information desk for specific tour times.
- **Discovery Tours** The Museum offers exciting and unusual tours of exotic lands in company with Museum scientists, anthropologists, historians, and natural historians. For more information about tours and itineraries, write to Discovery Tours at the Museum or call 873-1440.

**Natural Science Center**

- The Center introduces young people to the varied wildlife, plants and rocks of New York City. Some exhibitions include live animals. The Center is open Tuesday through Saturday, 10:30 a.m. to 12:30 p.m. and 1:30 to 4:30 p.m.

**Planetarium Events**

- **Wanderers in the Night** Through November 22. Learn the secrets of the planets, their legends and actual origins, and what modern science has determined about their physical properties. Explores the fascinating history of each from swift Mercury to cold, dark Pluto.
- **Star of Wonder** November 24 through January 4, 1983. What was the "Star of Wonder" that led the wise men on their journey to Bethlehem? Was it a comet? A bright meteor? Some have suggested that it was a nova or even a rare grouping of planets. This show is a celebration of the holiday season for the whole family. Sky show times: Weekdays, 1:30 and 3:30 p.m.
- **Saturday, 11 a.m., hourlly from 1:00 to 5:00 p.m.** Sunday, hourly 1:00 to 5:00 p.m. Admission for Participating, Donor, and Emerit Members: $2.25 for adults, $1.25 for children. For non-member prices call 873-3828.

**Museum Information**

- **Museum Hours** Monday, Tuesday, Thursday, Saturday, Sunday, 10:00 a.m. to 5:45 p.m. Wednesday, Friday, and Saturday, 10:00 a.m. to 9:00 p.m.
- **Cafeteria Hours** Daily from 11:00 a.m. to 4:45 p.m. and Sunday from 11:00 a.m. to 7:00 p.m.

**Museum Parking Lot**

- Located on 81st Street Open Monday through Thursday at 9:20 a.m. to 9:30 p.m. Friday and Saturday from 9:30 a.m. to 12:30 p.m. Rates are $5.50 for cars, $6.50 for buses. Parking is limited.

**Lion's Lash**

- Relax and enjoy refreshments with the animals in one of the hall Wednesdays 3:30-7:00 p.m. Saturdays and Sundays noon-5:00 p.m.

**Southwestern Research Station**

- Museum Members have setting privileges at this endpoint. If you are planning a visit of less than one week, write ahead for details. For more than one week, applications should be made to Deputy Director of Research, American Museum of Natural History, Central Park West at 79th Street, N.Y. N.Y. 10024, or call (212) 256-2395.
Star Gods of the Ancient Americas
Opens Friday, December 3, Gallery 3

Throughout the western hemisphere, early Native Americans used large, complex structures for astronomical observations. They relied on a precise understanding of the sun, moon and star cycles to help determine their hunting and growing seasons, and they structured their daily lives, their ceremonies and religious beliefs according to the heavens. In addition, their art and craft works were filled with astronomical imagery.

Star Gods of the Ancient Americas is the first major exhibition ever to present an overview of the astronomical imagery of the ancient Americans, comparing their beliefs and practices cross-culturally. Organized by the Museum of the American Indian, it explores the sophisticated level of astronomy, astrology and cosmology reached by the earliest Americans from the Arctic to the tip of Tierra del Fuego. The exhibition focuses on their imagery and myths, on their calendars (some of the Maya and Aztec are considered as accurate as ours today), and on the breadth and scope of the astronomical relationships and cycles they apparently understood. The 144 artifacts of gold, turquoise, wood, ceramic, stone and textiles vividly demonstrate this sophistication and its impact on the lives of early Native Americans. Highlights of the exhibition include a gold Peruvian calendar dated about A.D. 900, an elegantly carved Mayan vase depicting the sun god with potentiels serpent; a group of seven-foot-high Tlingit "moon posts" from the Pacific Northwest showing the phases of the moon, and a large scale mural of the Mayan observatory at Chichen Itza. The exhibition is free to all Museum visitors.
**Exploring the Deep Frontier**

**Tuesday, January 18, 7:30 p.m. Auditorium**

$3.50 for Members, $7.00 for non-members

On January 18, the traveling exhibition, Exploring the Deep Frontier, will open in the Museum's Roosevelt Rotunda (second floor). The exhibition, consisting of underwater photographs, diving equipment, marine specimens, and audio/visual displays, describes people's fascination with the sea and the barriers they have overcome to explore it. To celebrate the opening of the exhibition, Dr. Sylvia Earle, the world-renowned marine scientist and deep-sea diver, will present a special Members' program on oceanic exploration.

Dr. Earle's underwater experience includes 4,000 hours of observation, with 1,000 hours of living and working in underwater laboratories. Using slides and film, Dr. Earle will take Members on a trip to the depths of the Ocean, an area that has been virtually inaccessible and unexplored as the outer planets. She will survey the myriad plants and animals that inhabit the ocean depths, ranging from sea fans to large marine life. The program will include footage of scientists diving underwater near the North Pole and of Dr. Earle's own record walk on the ocean floor at a depth of almost 1,650 ft. In her lecture, Dr. Earle will focus upon the vast resources potential of the oceans, discussing the limits and prospects of mineral development and the possibilities of using aquaculture to enhance the world's food supplies. She will also look at how new technologies will enable people to live and work in the ocean. In the future, entire communities may be built underwater, and people may use small submarines as we use cars today.

Dr. Earle is curator and marine biologist for the California Academy of Sciences. She is also the co-founder of Deep Ocean Technology, Inc., a corporation which is developing new technologies to expand the ocean frontier. To order tickets, please use the adjacent coupon. There will be a private viewing of the exhibition prior to the lecture.
**Tahuantinsuyo: Music of the Andes**

*Wednesday, January 26, 7:30 p.m. Auditorium
$6.00 for Members. $8.00 for non-members*

Tahuantinsuyo, a Quechua word, was the name given by the Incas to their empire. Referring to the vast expanse of Andean civilization, it means "the four corners of the world."

Tahuantinsuyo is also the name adopted by a group of three talented musicians dedicated to researching and performing the traditional music of the Andes. Played on the instruments of the pre-hispanic cultures, their music represents the highlands of Bolivia, Peru, Ecuador, Colombia, Chile and Argentina. The rhythms, harmonic structures and melodies are all part of a long musical tradition. Both haunting and beautiful, it is suggestive of the environment in which it developed, the thin air, the snow-capped mountains, the ever-present wind, the dark blue sky.

Most of the instruments are wind instruments. Some are ancient, such as the quena, the reedpipe and the quena (three different types of pan pipes), the quena (a resonant cane flute), and the bongo (a drum made from a hollowed tree trunk with animal skins).

Others are more recent, such as the charango, a string instrument made in the 18th century from an almond shell, that shows the influence of the Spanish guitar. Tahuantinsuyo has performed many times in the New York area and at the American Museum of Natural History. Members may remember their music from the exhibition The Gold of El Dorado. Early reservations are strongly advised for the performance. To order tickets please use the coupon on this page. For more information call (212)873-1070.

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**Javanese Gamelan**

*Wednesday, February 2
7:30 p.m. Auditorium
$8.00 for Members
$10.00 for non-members*

The classical music of Central Java is performed with a large ensemble of bronze xylophones, gongs, and other tuned percussion instruments, collectively known as a "gamelan." The many timbres and textures of the music, ranging from soft delicacy to driving power, are achieved by an orchestra of at least fifteen musicians each playing complementary melodies according to age-old compositions.

In a special one-time performance at the Museum, the Wesleyan Gamelan, under the direction of Mr. Sumarsam, will present an amalgam in the World Music Program at Wesleyan University, will present a program of the classical music of Central Java.

The Wesleyan Gamelan is not only an accomplished ensemble, but impressive visually as well. Its serene beauty and grace are evident in the performance. Each instrument has its own ornamental mask, which is crafted to suit the instrument's shape and to visually unite it with the ensemble. In a similar manner, musical unity is achieved by each instrument playing motifs and individual notes of a commonly felt vocal melody. Mr. Sumarsam, born in East Java, has been playing gamelan music since he was eight years old. Trained as a musician, dancer and puppeteer at the Conservatory and the Academy of Gamelan, Surakarta, he has participated in a variety of international educational activities for many years. To order tickets for this performance, please use the coupon on this page. For more information call (212)873-1070.

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**The Mound Builders**

*Saturday, January 15
1:00 to 4:30 p.m. Kaufmann Theater
$10.00 for Members. $12.00 for non-members*

The Great Serpent Mound in Adams County, Ohio

This symposium discusses the architecture of two complex societies that flourished and disappeared in the Eastern United States, leaving behind enigmatic earthworks and exotic art scattered from the Great Lakes to the Gulf of Mexico.

1:00 p.m. Introduction. Dr. David H. Thomas, Chairman of the Department of Anthropology, American Museum of Natural History, will provide a brief overview of two dramatic cultures—the Hopewellian and the Mississippian—that preceded the European colonization of America.

Moderator: Dr. Stuart Stresow, Director of the Center for American archaeology, and Professor of North American archaeology at Northwestern University, will outline the history of mound investigations and discuss his excavation of Hopewellian mounds of the Illinois Valley.

Dr. James B. Grinker, Curator Emeritus of North American archaeology at the University of Michigan's Museum of Anthropology, and Professor Emeritus of Anthropology at the University of the Mississippi, will address the material culture of the Mound Builders archaeology. His prehistoric career spanned research on mound building societies. He will focus on the cultural dynamics of the earlier (Hopewellian) society.

Dr. Anne-Marie Cantwell, Associate Professor of North American archaeology at Rutgers University, will discuss the Mound Builders as a high civilization, with a summary of the Mississippian rise to civilization. Trade, art, cosmology, and political behavior will be discussed.

Dr. Howard D. Winters, Professor of North American archaeology at New York University, will address the subject of why it all came to an end.

He will discuss research on the cultural densities of the Hopewellians and the decline of Mississippian cities and states.

3:30 p.m. A film, The Myths and the Mound Builders (Goya Series, 59 minutes, 1981), will be shown following the presentations. The film reconstructs the history of the ideas associated with the mounds and their builders, from the mid-19th century explorations undertaken by curious citizens, to contemporary research.

To order tickets please use the coupon on this page. Note: there are a limited number of tickets, so Members are advised to order early. For more information call (212)873-1070.

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**Special Events Coupon (see articles for prices)**

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<thead>
<tr>
<th>Event</th>
<th>Price (members/other)</th>
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<tr>
<td>The Mound Builders</td>
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*Total amount enclosed $ (note that only Participating, Donor and Contributing Members may take the Members’ discount).

Name:______________________________
Address:______________________________
City:_________________State:__________Zip:__________
Daytime phone:_____________________

Membership category:
I enclose a check payable to the American Museum of Natural History, or I am an addressable, stamped envelope. Mail to: Registrar, Department of Education, American Museum of Natural History, Central Park West at 79th Street, New York, NY 10024.
The Year in Review

The American Museum of Natural History is one of the largest, most comprehensive natural history museums in the world, and it is a leader in research and education, as well. The following statistics and highlights vividly portray the service to our many constituencies. These services go far beyond the presentation of permanent and special exhibitions each year. As a natural resource for scientists, teachers, students — as a forum for important subjects in natural history — as a haven for the development of an understanding of the life sciences — it is one of the greatest institutions in the world.

- 2,641,576 people visited the American Museum of Natural History during the 1981-82 fiscal year. Approximately 133,000 of these were in school groups visiting for lectures and tours by the Department of Education, and 462,031 were visitors to the Planetarium.

- Hours during which the Museum remains open were expanded this year by 25%. A generous grant from Mobil allows the Museum to remain open free of charge on Fridays and Saturdays evenings (5:00 to 9:00 p.m.). In addition, the Museum has extended its weekday hours until 6:00 p.m., and Wednesday evening until 9:00 p.m., giving it the longest visitor hours of any major museum in New York City.

- More than 250 scientists, both curators and associates, utilized the collections directly with Museum research, pursuing thousands of projects that cover the wide spectrum of investigation in the natural sciences. This work this year culminated with 261 articles and reviews and nine books being published about aspects of Museum research.

- Almost 1000 loans consisting of many thousands of specimens and artifacts from the Museum's unparalleled collections were made to scientists and institutions around the world this year. Many loans were made on a long-term basis, and others were part of a world-wide collaboration of loans and exchanges to increase the data pool for scientific research.

- More than 1000 visits were made to the scientific departments by professionals wishing to study in depth various aspects of the collections. Many of these visits were extended by days, weeks, and even months, to allow for thorough investigation.

- 3770 requests for materials were received by the Museum's library, one of the largest natural history libraries in the world.

- Hundreds of graduate students, many through official programs, many on an individual basis, utilized the collections and the Museum to pursue advanced degrees and answers to questions in the life sciences. Many received advice, guidance and encouragement from members of the scientific staff, and many received remuneration through grants, fellowships and awards provided by the Museum or sought with the Museum's assistance.

Current Research

Thousands of projects and proposals are undertaken by the more than 250 scientists on the Museum staff. Their research takes them to every continent of the world, from the heights of mountain-top Native American villages and the deserts of Mongolia to the beaches of the Caribbean and the depths of the Red Sea. Listed here is a sampling of the research that has been conducted this past year.

- Dr. David Hurst Thomas (Department of Anthropology) led two months of excavation and fieldwork on St. Catherines Island, Georgia. Rains were excavated of the 16th and 17th century Spanish mission site, Santa Catalina de Guale, one of the best preserved mission sites in North America but which had been lost for more than 300 years. Thomas originally found the mission using highly complex technology including a proton magnetometer. To date two structures (including the church) and the mission well have been worked on.

- Dr. Linda Mantel (Department of Invertebrates) continued her investigation of the effects of low doses of common pollutants on the blue crab. These substances, she has determined, decrease the growth rate, slow regeneration, and affect the salt and water balance in this commercially important crustacean.

- Dr. Lester Short and Dr. Jennifer Home (Department of Ornithology) continued the exciting project of monitoring the behavior of the endangered Red-cockaded woodpecker. For the study 12 individuals of this endangered species were moved to St. Catherines Island in the hope that they might become permanently established. One pair of the birds successfully raised a single young bird late last year.

- Dr. Stanley A. Freed and Dr. Ruth S. Freed (Department of Anthropology) returned to the village of Shanti Nagar in northern India, where they had worked more than twenty years before. Both the earlier and later research focussed on the problems brought about by urban influences on traditional village life. Some areas of village life had undergone substantial change; other areas were much...
as they had been when they left. An analysis of the information gathered will focus on the changes and their causes.

Dr. Eugene Gaffney (Department of Vertebrate Paleontology) supervised the construction of a complete skeleton of the extinct horned turtle, the coelurosaur, which no complete model existed, took nearly two years of work and extensive research to finish. Four casts were then made from the skeleton. One was sent to the Museum of Lord Howe Island, Australia (the source of the turtle fossils), one went into the department's collection, and one was sent to the Australian Museum in Sydney, whose collections were invaluable to the project. The fourth was put on temporary exhibit at the American Museum of Natural History.

Dr. Judith E. Winston (Department of Vertebrate Paleontology) carried out the sixth and final census of her three-year series of experiments on the life histories of the hidden parts of the coral reef. Working in Discovery Bay, Jamaica, she census, photographed and dissected collecting panels for shipment back to the Museum. Her current studies on Florida braynoza have turned up one species which occurs on the Florida coast.

More Than Just Stereotypes

Too often the stereotype of a scientist or curator is of someone never out of a lab coat whose mind's eye is reserved for matters esoteric rather than those of current importance. Not only are the Museum scientists at the cutting edge of their fields, but they often reach out to help the community in matters of related concern.

Dr. Niles Eldredge (Department of Invertebrate Paleontology) is one of the leading voices in the battle against "scientific creationism." Among his numerous articles and books this past year were Creationism as Theater (Science 82). What Science Is, What It Certainly Is Not (Baltimore Sun), and The Monkey Business: A Scientist Looks at Creationism (Pocket Books). In addition, his popular book, The Myths of Human Evolution (Columbia University Press), written with Dr. Ian Tattersall of the Museum's Department of Anthropology, was published this fall.

Dr. Richard Zweifel (Department of Herpetology) participated in a deposition arranged by the American Civil Liberties Union for the "creationism vs. science" trial that took place in Alaska this past year and that determined that "creationism is not a science." Dr. C. Laviet Smith (Department of Ichthyology) is the chairman of the Hudson River Fisheries Advisory Committee—a legislatively body reporting to the New York State Department of Environmental Conservation—which has participated in the Hudson River Reclamation Project and the environmental impact study of Westway, among other activities.

Dr. Edith Tobias (Department of Mammalogy) gave numerous lectures outside her immediate field of study this past year, two of which were Women Working for Science and Religion for Women, and she contributed a new address for the conference Women, Science and Technology, "New Barriers and How to Remove Them."

Sydney Horenstein (Department of Invertebrate Paleontology) leads natural history tours of the urban environment that point out a broad range of invertebrates from the geological forces that shaped the landscape to the fossils embedded in our building stones. In addition, he is a R.E. S.T.O.R.E. an educational organization addressing the problems of building restoration. He focuses on the problems of building stone disintegration—how to recognize the problems and how to repair them.

Dr. Charles Cole (Department of Herpetology) gave expert testimony in a multi-million dollar lawsuit alleging that a live snake had dropped out of an egg from an ordinary hen's down. After examining the specimens involved, Dr. Cole determined that biological laws were not consistent with the allegations, and the suit was dismissed by the judge.

Dr. Richard Van Gelder (Department of Mammalogy) sits on the State of New Jersey Council on Non-game and Endangered Species; Dr. Sydney Anderson (Department of Mammalogy) is director of the American Society of Mammalogists and chairman of their committee on legislation and regulations; Dr. Lester Eshel, Dean Amerson and Stuart Keith (Department of Ornithology) sit on the International Council for Bird Preservation. All of these organizations work to preserve the protection of habitats and research for endangered species.

The Museum as a Forum

The American Museum of Natural History publishes Natural History magazine monthly, offering scientists and naturalists the opportunity to share their thoughts and discoveries, and offering Members the opportunity to read them. In addition the Museum provides meeting space for many of the city's scientific societies (an average of nine per month; see the calendar page of this issue of Royalton), and serves as a forum where issues of great significance in the fields of natural history can be aired.

The importance of the tropical rain forests to the ecological balance of the earth, and their current "endangered" status were the subjects of a public symposium in which four of the world's foremost environmental leaders participated.

A special ten-day conference attended by vertebrate paleontologists from around the world marked the first time that paleontologists had met to compare their data and fossil specimens of the three-foottall Hesperornis home. The Museum, with the largest and most complete collection of Hesperornis fossils in the world, was the natural selection for the conference site. A report of the proceedings will be published next year.

A symposium on Humans and Apes: Pathways in the Search for Human Origins brought together three of the world's leading paleoanthropologists: Jane Goodall, Don Johanson, and Birute Galdikas discussed their work on the great apes and the relationship of their studies to an understanding of human evolution. Donald C. Johanson, paleoanthropologist and discoverer of the famous "Lucy" skeleton, was the moderator.

On two occasions, Stephen Jay Gould filled the Museum Auditorium for a lecture on The First of Evolution—The Politics of Creation. The importance of this very sensitive issue was recently underlined by a national poll stating that 44% of Americans believed the creationist view was scientifically accurate.

Lost Talk, Walter Cronkite conducted an interview in the Hall of Biology of Man with Donald C. Johanson, author of Lucy: The Beginnings of Humankind, and Robert Bychowski, whose numerous digs sites and controversial stands have brought him to the forefront of the anthropological world. Two of the most well-known paleoanthropologists, they are also two of the least likely to agree, and this interview brought them into a rare public dialogue.

New and Improved Spaces

In a healthy sign of growth even in these times fraught with budget cutbacks and recession, the Museum has continued to expand both its space and offerings to the public.

In February the new NATUOREX THEATER opened to the public, bringing the old principle of education through demonstration to new heights. Large format IMAX films were shown daily on a screen four stories tall and sixty-six feet wide.

Two new theaters, classrooms, lecture halls, and a renovation of existing space are under construction to become the new Charles A. Dana Education Wing. The two new theaters have already opened in what was formerly Education Hall, and other facilities will be built in an interior courtyard of the Museum.

The Margaret Mead Hall of Pacific Peoples is nearing completion. (More information in future Royalton.)

The future Hall of South American Peoples is swarming with construction workers and contractors, designers and anthropologists, all working to present a reaper permanent exhibition that will display the best of the Museum's archaeological and anthropological material from this geographical location.

The Annual Report

We will be happy to send you a complete Annual Report for the American Museum of Natural History, free of charge. If you would like to have a copy, please write to the Membership Office, American Museum of Natural History, Central Park West at 79th Street, New York, NY 10024
Sexual Encounters of the Floral Kind
Sunday, January 23
11:00 a.m. - 3:30 p.m.
Free and open only to Members
Kaufmann Theater

While they approach it differently than their neighbors in the animal kingdom, plants do reproduce sexually, exchanging chromosomes to produce fertile offspring. But nature has had to be pretty imaginative to allow this exchange to take place. While animals rely on mutual attraction and intimate contact, plants are rooted to the ground and don’t play social cards. Nature, never at a loss for solutions, has provided them with a unique means of exchanging chromosomes: insects and other visitors travel unwittingly from one to the other, carrying pollen on their feet and wings.

In the hour-long film Sexual Encounters of the Floral Kind, John Cooke and the Oxford Scientific Films Company explore this fascinating area of nature. Using spectacular photography, some of it in time-lapse, they have compiled a wealth of information that is entertaining and at times extraordinary.

“While we travelled the world...” Cooke says, “to get the most remarkable, most improbable stories of pollination. Some of the things that plants do to lure insects are absolutely unbelievable.”

Some flowers put out flowers that, after a period of time that is sufficient for the local insects to have become coated with pollen, become traps that lure feeding insects in and don’t let them out. Another species of lily, found in Sardinia, emits the odor of rotting flesh to attract blow flies.

John Cooke, who will introduce the film and answer questions, was an Associate Curator in the Museum’s Department of Entomology from 1969 to 1973. Well known for his film on spiders, Come into My Parlor, he spent seven years with his colleagues making this latest film.

The program, presented here last year for the film’s United States premiere, was so popular we have brought it back for a return engagement. It is highly recommended for all ages. To order tickets please use the adjacent coupon.

Memories’ Tour of the Month
Amphibians and Reptiles

Why do lizards have toes? What is the difference between a crocodile and an alligator? How do lizards grow back their tails? Members will find out the answers to these and other questions on our Members’ tour of the Hall of Amphibians and Reptiles. Members will be able to marvel at creatures whose ancestors lived almost 300 million years ago. The tour will include a look at Komodo dragons, a Galapagos tortoise, Gila monsters, leatherback turtles, pythons, and a toad that carries its eggs on her back. The tour is open only to Participating, Donor, and Contributing Members of the Museum. To register please use the adjacent coupon.

Still Nosing Around?
Give a Gift of Membership for the Holidays

As a special holiday benefit, Participating, Donor and Contributing Members may give gift memberships at 20% off the regular price. We will enroll your friends, relatives or business associates as Members and send you a special announcement card to give to them. Or, if you have gotten too far behind in your shopping to get it to us in the mail, come into the Museum at any time and we will make sure you carry your gift out with you. Minimum hassle. Minimum wait. And just look at what you will be giving them.

Associate Membership ($15, $12 for you)
- Natural History magazine for a full year
- Free admission to the Museum
- A free ticket to the Naturemax Theater
- Discount at all Museum Shops

Participating Membership ($30, $24 for you)
- All of the above
- Rotunda, the Museum’s newsletter
- Six free tickets to the Naturemax Theater
- Free admission to the Museum for family
- Discounts on all Plangnomenus programs
- Special viewings of exhibitions
- Programs and lectures each month (just look at the opportunities in this issue)
- And much, much more

Yes! Memberships are a natural selection for my holiday shopping!
(If you have more than one, enclose their names and addresses on a separate sheet of paper.)

Please enroll the following as:
- Associate Member ($12 at Members’ discount)
- Participating Member ($24 at Members’ discount)

Name:
Address:
City: State: Zip:
This Membership is a gift from:
Name:
Address:
City: State: Zip:
I enclose a check to the American Museum of Natural History for $__________ (for the enclosed Memberships):
Please bill me after the holidays
Please charge my: Mastercard: VISA: American Express
Card number: Expires:
Signature:
Mail to the Membership Office, American Museum of Natural History, Central Park West at 79th Street, New York, NY 10024
Rhythms

Throughout his long career in African dance and culture, Nana Dinduлу has traveled to Africa many times. With research there and in the United States, he has been able to develop a repertoire of African music, songs, and dances that reflect his attitude and character of the people it represents. He will bring a group of the executive repertoire to the Museum when the Di-

nului Dancers, Directors, and Students perform their fourth dance concert here. The four dances, Dumont and Singers, under Nana Dinduлу's direction, have been a professional dance company since the late 1940s. They have performed throughout the United States and West Africa, on television and in theaters, presenting the traditional dances and music of various African cultures. They thrilled audiences for two years at the African Pavilion at the New York World's Fair, and through their ap-

pearances at schools, thousands of American chil-
dren of all cultural and ethnic backgrounds have received their first authentic introduction to African culture. The dances they will perform at the Museum include the Budu (a Zulu war dance), the Igunguwa secret society dance from Nigeria, and the Gunhout (the highly energetic dance of the South African miners). The performances, spon-
sored by the Department of Education, will be free to all Museum visitors. Free tick-

et tickets for both performances will be distributed on a first-come, first-served basis near the first floor In-

formation Desk beginning at 11:30 a.m. on the day of the performance. Please note that there are no more than two tickets per individual. The limited tickets for
each performance will be dis-

tributed until they are gone. Members are advised to arrive very early.

African Rhythms
Sunday December 12, 1:00 and 3:00 p.m. Kaufmann Theater. Free

New Naturemax Film

Beginning Friday, November 26, the Museum's NATUREMAX THEATER will add the film Max Belongs to the Earth to its schedule. Featuring explorations of the fragility of the earth's re-

sources, this film was the winner of the Spolake's 70. From the dazzling opening scene of the Grand Canyon to a dramatic finale, the huge images on the theater's screen are a reminder of the
care the earth's magnifi-

cent beauty and its extreme fragility which industrial soci-

ety so often ignores.

A free admission film will become part of the Saturday and Sunday evening double features where it can be seen either with Living Planet or To Fly. The film Living Planet will move into the daily schedule alternating showtimes with To Fly, Columbia's widely known after World, November 24. If you have any questions as to showtime and prices, please call the NA-

TUREMAX number at (212) 496-0990.

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<thead>
<tr>
<th>Day</th>
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<tr>
<td>Thu 28</td>
<td>Christmas Magic Room</td>
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<td>Fri 29</td>
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<td>Sat 30</td>
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<tr>
<td>Sun 31</td>
<td>Christmas Magic Room</td>
<td>4:00 PM</td>
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**Curtain Call Time:**
- 10:45 AM
- 1:45 PM
- 4:45 PM

**Closing Time:**
- 20:00 PM

**Opening Time:**
- 10:00 AM
- 2:00 PM
- 5:00 PM

**Price:**
- $5.00
- $6.00
- $7.00

**Curtain Call:**
- Thursday at 8:00 PM
- Friday at 11:45 AM
- Saturday at 1:45 PM
- Sunday at 2:45 PM

**Closing:**
- Thursday at 11:00 PM
- Friday and Saturday at 5:00 PM
- Sunday at 8:00 PM
Exploring the Deep Frontier

A Lecture with Sylvia Earle

Man and Nature

Lectures

Deep Ocean Photography

Galactic Health Adventure

Apes Insects and Festival's

Weather and Not Weather or


domestic wildlife and their natural habitats.

Exploring the Deep Frontier

Dr. Sylvia Earle, one of the world's foremost marine scientists, will deliver a lecture on her work as an underwater explorer. Earle has spent thousands of hours underwater, capturing images of the ocean's living and non-living inhabitants. This lecture will provide an insight into her experiences and the importance of ocean conservation.

Deep Ocean Photography

Dr. David A. Hamilton will deliver lectures on his work as a photographer and marine biologist. His images capture the beauty and complexity of life in the deep ocean, offering a glimpse into the world beyond what we can see with the naked eye.

Galactic Health Adventure

Dr. John Goodbody will discuss the impact of space travel on the human body. He will explore how the unique environment of space affects our health and well-being.

Apes, Insects and Festivals

Dr. William Crotch will present a lecture on the role of insects in daily life and the importance of understanding their behavior. He will also discuss the role of apes in our understanding of evolution and behavior.

Weather or Not

Dr. Elizabeth Smith, a meteorologist, will explore the natural phenomena surrounding weather patterns, including the role of human activity in climate change.
Members' Memo

Have You Got the Time?

There are many ways of going to the American Museum of Natural History. Membership is of course one way, and your membership dues are vital to the continued growth and development. Corporate giving is another, and if you turn to page 11 of this issue, you will find a list of the many different corporations who have so generously supported us during the past year. However, one of the most important and meaningful ways of going to the Museum is as a Museum volunteer. Last year alone, almost 500 people contributed more than 100,000 hours of their time, energy, and skill to the Museum and its many departments.

Volunteers are crucial to the Museum. In Membership, volunteers have proven invaluable to us in registering people for programs, processing memberships, and serving as hosts and guides for many of our programs. Events such as the Behind-the-Scenes Tours and Origami workshops would be impossible without their help. In Anthropology, volunteers perform a wide variety of tasks ranging from classifying prehistoric weapons to translating the journals of South American archaeologists. The opportunities are so popular that there is a long waiting list. If you were to visit our field station on Great Gull Island, you would find Ornithology volunteers camping under primitive conditions as they help with a continuing study of the island’s tern population. In our housekeeping, another group of volunteers is making reproductions of dinosaur skeletons to be sent to other Museums. I am sure many of you have seen our Origami holiday tree (and if you have not, you should try to see it before it is taken down on January 3) but did you realize that every origami figure on that tree was folded by a volunteer?

Volunteers also serve as a primary link with our public. All of our information desks are manned by volunteers. And all of the guides of our Highlights Tour program are volunteers who have undergone rigorous training and spent hours learning about the Museum’s exhibits and collections. Our volunteers are a diverse group. They range in age from 14 to 90 and they come from all walks of life. There are teachers, doctors, news desk editors, insurance executives and of course students who come from the city’s vast network of schools and colleges.

Volunteering at the Museum is an exciting way of becoming involved in the Museum and its many activities and of getting a behind-the-scenes view of how we operate. If you have some spare time and would like to help, please call the volunteer office at (212) 873-1300, ext. 538. The staff will explain the different opportunities available and set up an appointment to meet with you. Now is a particularly good time to sign up since orientation sessions begin in February.

Volunteering can be a magical experience. I should know because I started here as a high school volunteer almost twelve years ago.

Peggy Thompson
Weather Wise
Wednesday, February 16, 7:30 p.m. Auditorium
Free and Open Only to Members

Each night millions of Americans flock to their television sets to view the next day’s weather forecast. They are guided by smiling newscasters who, with a few charts and photographs, make the art of forecasting seem simple. In fact it is a highly complex science.

Members are invited to join Dr. William Gutsch for a behind the scenes look at how meteorologists create the daily weather forecast. Members will learn how “round-the-clock” ground observation as well as data from balloons, radar stations, and earth-orbiting satellites are used together with modern computers to produce the weather report seen on television each night. The program will be richly illustrated with slides, film, time lapse photography and color radar images.

In addition, Dr. Gutsch will take a close look at particular winter weather phenomena indigenous to the Northeastern United States. Using special satellite footage, he will trace the birth and development of a winter storm.

Dr. Gutsch is Chairman and Associate Astronomer of the American Museum - Hayden Planetarium as well as science correspondent and meteorologist for WABC TV.

Weather Wise, Wednesday, February 16
This program is open only to Members of the Museum and their guests. Participating, Donor, and Contributing Members are entitled to four free tickets. Associates are entitled to one.

Please send me:

Name:__________________________
Address:________________________
City:__________________State:____Zip:________
Daytime Phone:____________________
Membership category:
______________________________

Please mail with a self-addressed stamped envelope to Weather Wise, Membership Office, American Museum of Natural History, Central Park West at 79th Street, New York, N.Y. 10024.

Galactic Health Adventure
Members’ Preview: Saturday, February 12, 10:15 and 11:30 a.m.
Hayden Planetarium. $3.00 for Adults. $2.00 for Children

Blown off with Slim Goodbody in a special Members’ premiere of his new galactic health adventure at the American Museum — Hayden Planetarium. Upon entering the sky theater, you will be greeted by smiling meteorologists — who, with a few charts and photographs, make the art of forecasting seem simple. In fact it is a highly complex science.

Along with the roving Goodbody's all natural and asteroid belts, and you should be prepared to encounter space pirates and fantastic alien creatures. The ship will also visit planets and their moons and discuss how well your body would survive in these alien worlds. Music and songs will be piped into the ship throughout the mission.

Before joining NAHA, Captain Goodbody was a T.V. star on planet earth’s Captain Kangaroo Show. He is the author of two books (Mr. Slim Goodbody Presents the Inside Story and What Can Go Wrong and How to Be Strong) as well as a record album designed to teach children about health concepts. He is now expanding his performance to include other worlds. The show is recommended for children ages 4-12.

The show will appear from February 14 through 19, and March 28 through April 2. For showtimes and non-member prices call (212) 873-1300, ext. 206. The special Members previews will be the only shows for which you can reserve tickets with the adjacent coupon.

Slim Goodbody Saturday, February 12

| Number of children’s tickets | $2.00 | $ |
| Number of adult’s tickets   | $3.00 | $ |
| Total payment enclosed      | $   | $ |

10:15  11:30 (please indicate a first and second choice if possible)

Name:__________________________
Address:________________________
City:__________________State:____Zip:________
Daytime Phone:____________________
Membership category:
______________________________

Please make check payable to The American Museum of Natural History, and mail with a self-addressed, stamped envelope to Slim Goodbody, Membership Office, American Museum of Natural History, Central Park West at 79th Street, New York, N.Y. 10024.
Javanese Gamelan
Wednesday, February 2, 7:30 p.m. Auditorium
$8.00 for Members, $10.00 for non-members

The classical music of Central Java is performed with a large ensemble of bronze xylophones, gongs, and other tuned percussion instruments, collectively known as a “gamelan.” No two gamelan are precisely alike, the instruments being tuned only to each other, rather than to an external standard pitch. A gamelan typically consists of two sets of instruments, tuned to different scales, that then unite in a remarkable variety of complementary melodies. The many timbres and textures of the music are achieved by an orchestra of at least fifteen musicians.

In a special performance at the Museum, the Wesleyan Gamelan, under the direction of Mr. Sumarsam, visiting artist in the World Music Program at Wesleyan University, will present a program of the classical music of Central Java. Mr. Sumarsam, born in East Java, has been playing gamelan music since he was eighteen years old. Trained at the Conservatory of Gamelan and the Academy of Gamelan, Surakarta, he has participated in a variety of international educational activities.

To order tickets use the adjacent coupon.

Music of the Andes
Wednesday, January 26, 7:30 p.m. Auditorium
$6.00 for Members, $8.00 for non-members

The American Museum of Natural History is pleased to announce the inauguration of the Mack Lipkin Man and Nature Lectures. These lectures have been established to honor Dr. Lipkin's significant contributions to fields of biomedical science. The Man and Nature Lectures will bring prominent scientists and physicians to the Museum to discuss their work and its impact on the critical problems and challenges facing humanity. The first lecture series will be given by Dr. David A. Hamburg. These lectures represent part of the Museum's continuing commitment to bring current research in the natural sciences to the broadest possible audience.

Wednesday, January 19 — The Evolutionary Background of Human Behavior. Dr. Hamburg will discuss how a better understanding of the behavior of the monkeys and apes, as well as of our own early ancestors, can help us to cope with the variety of behavior problems that are the subject of the lecture on February 22.

Tuesday, February 22 — Ancient Humans in the 20th Century: Problems Close to Home. Dr. Hamburg will explore the suitability of our species to the drastic changes of the 20th century. He will present evidence from the ancient potential of our species as a model for understanding disease, infant health, adolescent development, and our aging population.

Tuesday, March 22 — Ancient Humans in the 20th Century: Problems Close to Home. Dr. Hamburg will explore the suitability of our species to the drastic changes of the 20th century. He will present evidence from the ancient potential of our species as a model for understanding disease, infant health, adolescent development, and our aging population.

Tahantinsuyo, a group of three talented musicians from South America, play music of the pre-hispanic cultures of the Andes. Using the traditional instruments of the cultures, they recreate the rhythms, harmonic structures and melodies of this long, musical tradition.

Most of the instruments are wind instruments. Many have ancient roots, such as the various pan pipes, and others are more recent, such as the stringed charango that skeptical the influence of the Spanish guitar.

Tahantinsuyo has performed many times in the New York area and at the American Museum of Natural History. Members may remember their music from the exhibition The Gold of El Dorado. Early reserving are strongly advised for the performance.

To order tickets use the adjacent coupon.
Primates: Behavior, Ecology & Conservation

Five evenings starting February 15, 7:00 to 8:30 p.m. Fee $35 ($31.50 For Members).
Wild populations of the world's 175 species of nonhuman primates are disappearing rapidly, especially in the tropical forests, which are the home of more than 90% of living primates. This course highlights the plight of these animals, emphasizing their intrinsic scientific interest and importance for our closest living relatives, the human primates.


Wednesday, Feb. 23: Dr. Randall Susman, Assistant Professor, Department of Anthropological Sciences, State University of New York at Stony Brook. The Behavior and Ecology of Pygmy Chimpanzees in Central Zaire. Richly illustrated with slides of Zaire, its people and its pygmy chimpanzees.

Underwater Archaeology in the Ancient Mediterranean

Four Tuesday evenings starting March 1, 7:00 to 8:30 p.m. Fee: $25 ($22.50 For Members).
Dr. Anna Marguerite McCann explores recent underwater excavations at ancient harbor sites. Fisheries and shipwrecks in the Mediterranean are discussed and their significance for our understanding of our own maritime heritage. Discoveries at Phoenician, Greek, and Roman ports and ships will be included, as well as a survey of ancient fishing practices and fisheries.

Dr. McCann has directed and photographed many of the underwater excavations to be shown. She is the author of many articles on the subject, as well as a book on the Roman port and fishery of Cosa, Italy, which she has recently excavated.

Mar. 1: Ancient Harbors in The Mediterranean: their evolution from the Phoenician, Greek and Roman worlds, including material from the port sites of Phoenician Carnuntum (Austria), Greek Kerch (Ukraine), Etruscan Populonia, Pyrg and Roman Cosa (Italy), Carthage (Tunisia), and Ostia (Italy).

Anthropology Through Films

Five Thursday evenings starting February 17, 7:00-9:00 p.m. Fee: $25 ($22.50 For Members).

What do hose Krishna converts in Canada, a biologist working in Papua New Guinea and apprentices to the village life share in common? All are part of five evenngs of unusual films providing insight into cultural behavior. Dr. Malcolm Andrews, Curator of the Museum's Department of Education introduces and discusses the works, and on several evenings is joined by the filmmakers.


Human Evolution

Three: Monday evening starting February 28, 7:00 to 8:30 p.m. Fee: $20 ($18 For Members).
Dr. Ian Tattersall, Curator in the Museum's Department of Anthropology, and Dr. Niles Eldredge, Curator in Museum's Department of Invertebrates, present current thinking in the field of physical anthropology. They are co-authors of the recently published book "The Myths of Human Evolution."

Feb. 28: Evolutionary Thought Since Darwin: Comparisons of alternative models of the evolutionary process available today. What evolutionary patterns can we expect to find? Dr. Niles Eldredge

Mar. 7: Overview of the Homoloidal Fossil Record. History of discovery of the fossils, and alternative interpretations placed upon them. Dr. Ian Tattersall.

Mar. 14: The Homoloidal Fossil Record in the Context of Evolutionary Patterns. What was the the style of human evolution? What does it imply for the future? Dr. Ian Tattersall.
April 2. Land Of The Trembling Earth: Okanagan National Wildlife Refuge


Insects: Earth's Most Successful Animals
Six Tuesday evenings starting February 17, 7:00-8:30 p.m. Fee: $35 ($31.50 for Members).
Informal slide-illustrated talks introduce the fascinating world of insects. Alice Gray, Museum Associate in the Department of Entomology, discusses structure, life histories, environmental relationships, and the significance of insects to man.

Feb. 7. Insects And Their Place In The Animal Kingdom: introduction, basic anatomy, history, and present diversity; factors contributing to success.


Mar. 3. Bed And Board; insect habitats, food and feeding, shelter problems and reproductive potential.

Mar. 10. Hazards Of Insect Life: survival responses to competition, disease, predators and climate.

Mar. 17. The Sense Of Insects: how they are studied, communication among insects.

Mar. 24. Insects And People: harmful and beneficial aspects; how to live with the insect world, some thoughts on peaceful coexistence.

Exploring American Wilderness Areas
Six Monday evenings starting February 28, 7:30-9:00 p.m. or six Monday evenings starting February 28, 7:00-8:30 p.m. Fee: $35 ($31.50 for Members).
Much of the remaining scenic grandeur and wildlife of the United States and Canada is restricted to federally protected areas: such as national parks, monuments and wildlife refuges. With color slides, this series introduces some of the most beautiful and diverse of these regions. Emphasis is on plant and animal life, their conservation and ecological significance.

Kenneth A. Chambers is Lecturer in Zoology at the Museum.


Mar. 21. Wild Flowers & Big Game: Wild flower spectacular on Mt. Rainier; big game in the Canadian Rockies.

Apr. 4. Land Of The Trembling Earth: Okanagan National Wildlife Refuge.


Islamic Arts And Sciences
Five Tuesday evenings starting February 22, 2:30-4:00 p.m. or Five Tuesday evenings starting February 22, 7:00-8:30 p.m. Fee: $30 ($27 for Members).
Paul J. Sanfènc, Lecturer in Anthropology at the Museum, will bring into focus aspects of Islamic arts and sciences which he has taught on only briefly in his well-received "The World of Islam" series. Illustrated with color slides of miniatures, illuminated manuscripts, and contemporary scenes, this series deals with the ways Islamic Civilization benefited from, and added to, Greek, Roman, and Indian accomplishments in the arts and sciences. From Spain to the East Indies, Muslim scholars contributed to a vigorous cultural exchange. Included are discussions of literary devices in prose and poetry, painting, perspective, and color theory; and the social conditions for Islamic art. Applications of mathematics in scientific theory and practice, the lure of architecture, landscape gardening and urban planning are other subjects covered.


Animal Drawing
Eight Monday evenings starting March 7, 7:00-9:00 p.m. Fee: $75 (materials not included). Limited to 25 persons.
Join us as we sketch gazelles on the African Plains, or draw tawny wolves in the snowbound north. Using exhibition halls after the Museum closes to the public, students draw from realistic habitats as well as mounted specimens. Stephen C. Quarr, Senior Principal Preparator Artist in the Museum's Exhibition Department, will discuss drawing techniques, animal anatomy, the role of the artist at the Museum, field sketches, and how exhibits are made. Different media and techniques are explored. Individual guidance is given to each participant from beginner to experienced artist. The following exhibition halls will serve as studies: The Akeley Hall of African Mammals, Osborn Hall of Late Mammals, Hall of North American Mammals, Hall of North American Birds, Hall of Late Dinosaurs, Hall of Ocean Life.

Foraging For Dinner: Identifying, Collecting and Preparing Wild Foods
Six Tuesday evenings starting February 15, 7:00-8:30 p.m. Fee: $35 ($31.50 for Members).
Get to know the wild plants that have been used for food by people throughout the ages. In this series of lectures with slides and demonstrations, plants will be examined, their cultural history noted, and methods of preparing the more common ones are shown. Dr. Helen Ross Russell, author of the book, Foraging for Dinner, has led scores of wild food forays in the metropolitan area.

Feb. 15. Philosophy Of Foraging, modern foragers, conservation and responsibility; techniques for plant identification; a special look at the rose family.

Feb. 22. Dangers And Benefits Of Foraging; types of plant poisoning, edible nightshades, mushrooms, sumacs, and poisonous beans.

Mar. 1. Cooking, Beverage Making, And Preserving; preparing for tomorrow; plans appropriate for each technique.

Mar. 8. Flowers In Your Cocktail; using ornamental plants for food; common edible specimens.

Mar. 15. That Weedy Garden; identifying and preparing edible wild plants that flourish in gardens.

Mar. 22. Wild Plants In North And South American History; contributions to Native American cultures and to the cookbooks of early settlers.

Wild Flowers Of The Northeast
Five Tuesday evenings starting February 15, 7:00-8:30 p.m. or Five Thursday evenings starting February 17, 7:00-8:30 p.m. Fee: $30 ($27 for Members).
Thousands of species of wild flowers are native to the various regions of the northeastern United States. Some are common; others are highly specialized and restricted in range. All are part of the web of life, and some function with unusual adaptations. There are insect-trapping bog plants, Arctic creepers on windswept mountainsides, and ornate woodland orchids. These, together with a selection of wild flowers of forest, meadow, pine barrens, and woodland, will be discussed by Helmut Schiller, Lecturer in Botany at the Museum.

1. What Is a Wild Flower? how is it put together?
   - Basic structure, family, and environment

2. Wild Flowers Of Mountaintops And Northern Coniferous Forest; above the timberline and in the evergreen woodland below.

3. Wild Flowers In Most Environments; the deciduous forest.

4. Wild Flowers Of Dry Environments; pine barrens and seashores.

5. Wild Flowers Of The Wetlands; bogs, marshes, and swamps.
Abbreviations: Aymara, Quechua, Inca, Tahuantinsuyo, Q'eros.

Music Of The Andes
Five Thursday evenings starting February 17, 7:00-8:30 p.m. Fee: $35 ($31.50 For Members)
The sequence of cultures which preceded the Inca civilization produced a musical tradition which is distinctive to the Andes. Throughout several thousand years certain musical elements have remained consistent. While many of these have blended with Spanish Colonial traditions, few have escaped the effects of contemporary communication systems. Five evening with ethnomusicologist and flautist John Cohen, including special demonstrations and performances by Tahaantinsuyo, flautists and field recordists develop ideas fully.
Feb. 17. Ethnomusicology and its concerns as applied to Andean music. Native musical instruments used by the Quechua and Aymara Indians and those introduced in the Colonial period. Modes and rhythms of Andean music and associated songs and dances. Special Guest: Pepe Santana of Tahaantinsuyo.
Feb. 24. Music from Q'eros, an isolated Aymara community where music has remained relatively free from external influences. Film showing Q'eros: The Shape Of Survival (dir. John Cohen; 1979)
Mar. 3. Field recordings and ideas about popular and folk culture. The spread of the Huayno and the function of phonograph recordings, stage shows and tape recordings in perpetuating traditional music.

Local Field Trips
For Weekend Field Trip itinerary and application, call (212) 873-7507.

Explore Weaving
Six Tuesday evenings starting February 15, 7:00-9:30 p.m. Fee: $35 (materials included). Limited to 22 persons.
In the past century, archeologists have become increasingly aware of the antiquity and importance of weaving throughout the world. Phyllis Mandel, handweaver and anthropologist, leads participants in fundamental textile techniques, using simple equipment. Workshops also include lectures illustrated with beautiful color slides, and demonstrations of looms from Africa, Asia, the Americas, and the Pacific Islands. Participants complete three weaving projects, for which all materials are provided.

Saturday Field Walks In Botany
Six full day walks, starting April 23, 10:00 a.m. Fee: $40 Limited to 30 persons.
During the spring blooming period, walks are taken to areas of botanical significance in New York City and vicinity to learn about wild plants, particularly the flowering forms. Identification and ecology of the plants are discussed informally. Helmut Schiller, Lecturer at Botanic of the Museum.

Two Saturday Bird Walks
May 7. Birds of Field and Forest. Join a fascinating hike in the spring woods. An all-day excursion by bus to Ward Pound Ridge to observe migrating wood warblers, tanagers, orioles, and other denizens of this beautiful woodland preserve.
May 14. Marsh and Water Birds. An all day excursion by bus to the marshlands and estuaries of Jamaica Bay Wildlife Refuge, where we will observe the spring migration of waterbirds. Herons, egrets, sandpipers and shorebirds are a few of the diverse varieties of birds attracted to these rich wetlands.
Films Judged by Children

Sunday, January 9, 1:00 and 3:00 p.m. Kaufmann Theater. Free

Fifteen outstanding selections from the 1982 Los Angeles Children's Film Festival will be screened at the Museum. Recognized internationally, this Festival provides an opportunity to view films from around the world. It is unique among film festivals because the films are not only made for children, but are judged by them as well. The organizers of the Festival, the American Center of Films for Children, visit schools and other groups of children and encourage them to discuss their favorite films, even with critics. Often their analysis is vastly different from the adults, giving everyone a new outlook on the films.

The first films are the result of this year's judging. Suhu and the White Horse, 1982, John Schindel. (10 minutes, animated). A Boy, a Dog and a Frog, 1981, Gary Templeton (9 minutes).

Cracl 1981, Frederick Back (10 minutes, animated). (Winner of the Ruby Slipper Award for Best Animated Short Film.)

Roller Skate Fever, 1981 Paul Shaper & Isad Barr (10 minutes).

Kurtis the Hollywood Superman, 1981 Peter Rowe & Paul Quigley (25 minutes). (Winner of the Ruby Slipper Award for Children's Jury.)

Courses for Stargazers

The American Museum - Hayden Planetarium is offering a large selection of courses in their winter term. These courses are limited, early registration for all courses is suggested. Free parking is available to the capacity of the Museum lot for students in the evening courses.

Participating, Donor, and Elective Members receive a 10% discount for all courses. Seniors citizens receive a 50% discount. For registration information call (212) 873-1300, ext. 206.

Sexual Encounters of the Floral Kind

Sunday, January 23, 11:00 a.m. 1:30 and 3:30 p.m. Free and Open Only to Members

Last spring, Members had the opportunity to preview the film, Sexual Encounters of the Floral Kind. The film received such enthusiastic response that we are offering it again as our January Family Members program.

This spectacularly photographed, hour-long film explores the remarkable and at times unbelievable varieties of pollination. Unlike their counterparts in the animal kingdom, plants reproduce sexually but never meet their mates. Instead they have devised ingenious lures and deceptive traps so that insects, birds, and other visitors will transport their pollen from one plant to another.

The film was made by John Cooke and members of the Oxford Scientific Films Company, some of the best natural history photographers in the world. In Sexual Encounters of the Floral Kind, the ingenuity of the photographers was matched only by that of their subjects. In one incredible sequence, the film shows a Costa Rican orchid entrapping a bee and then, while letting it escape through a secret passage, attaching a package of pollen to its back. Another sequence shows a fly in Sar dinia that emits the odor of rotting flesh to attract blow flies. And in a third, an apparently peaceful fly becomes a deadly killer in order to get pollen from unsuspecting flies.

John Cooke, who during a seven year period traveled all over the world to make the film, will be on hand to introduce it and answer questions. Before joining Oxford Scientific Films, Dr. Cooke was an Associate Curator in the Museum's Department of Entomology. To order tickets please use the adjacent coupon.

A Musical Tribute to Dr. Martin Luther King

Thursday, January 13, 7:30 p.m. Auditorium. Free

The contribution of Dr. Martin Luther King, Jr. to the black freedom movement was that of a leader who was able to turn protests into a crusade and to transform local conflicts into moral issues of national concern. More than any one person he helped to establish the. way of life in one's cultural heritage as a tool to overcome prejudice. Using music and dance pieces with the theme of pride, several artists will gather to give a musical tribute to the late Dr. King. The program includes singing, dancing, a gospel singing group, and an original piano piece by a composer from Ghana.

Sponsored by the Department of Education and the New York City Department of Parks and Recreation the program will be free to all Museum visitors. Seating is on a first come-first served basis.
Tales of Fish That Didn't Get Away

The collection of the Department of Ichthyology ranks seventh or eighth in the country in terms of numbers of fish and "type" specimens (the first discovered members of a species, and therefore the one by which the species is described). Its geographic coverage includes samples from the waters of every continent and every ocean. Its comparison collection of prepared skeletons is unequalled anywhere in the world.

From the standpoint of the lay observer, however, the most impressive aspect of the collection is that of most of it—there are well over a million specimens—has been acquired in the last twenty years through the back-breaking work of the current curators. The collection is about seven times the size it was when they began.

In 1961, when Dr. Donn Rosen joined the staff, he was asked by the director of the Museum to coordinate the "rehabilitation" of the existing collection. This included fish from the famous Central Atlantic Expeditions and the Larg-Chapin Expedition to the Congo, among others. Because of long-term neglect and bad storage, the rehabilitation was more of a salvage operation: much of the storing alcohol had evaporated off leaving hardened specimens in some cases and a gelatinous "fish soup" in others; many specimens had been stored unlabeled and uncatalogued. On top of this, most of the glass storage jars were permanently sealed with an epoxy-like cement of fish oil and dirt. Of the 20 thousand lots (a lot contains an average of ten fish), only parts of 15 thousand could be saved. Five thousand lots were completely useless and had to be thrown out. The process of recataloging involved everyone in the department. All were given hammer to get into the old storage vessels. Dr. Rosen says it was like opening Christmas presents: you were never sure what you might find inside. One by one the lots were transferred to new containers, labeled, catalogued and stored in a retrievable manner. After almost a year the old collection had a proper home, and the curators were again able to concentrate on their own endeavors.

From then until now they have conducted a series of expeditions that added more than 700,000 specimens to the collection. This includes major collections from the Bahamas, Australia, tropical America, and New York State.

Collecting is not what it used to be. No longer can we afford to send out scientists with hundreds of workers to carry supplies and to hire the banks of rivers to assist in collecting. Technology now allows two or three to do the work of many; planes, boats, and helicopters have opened up areas that might be otherwise inaccessible. Deep sea vehicles are now even more sophisticated. There are new and better methods of trapping the fish, and the aquaculture greatly simplifies the study of habitats. But extensive field work can be expensive and time consuming.

So it was with understandable enthusiasm that the department recently acquired three new and important collections—all significant in size—without as much as taking their workers and nets out of the closet. Two of these come from environmental impact studies of power plants on the Hudson River, and the third consists of 15 thousand cataloged lots of fish from the Polytechnic State University of Virginia (VPI).

VPI was spending more on storage space than the use of the collection justified. In fact it had been stored unused for several years in a vacant supermarket! Since our collection serves so much use—loans are sent out all over the world, and the department receives more than 200 visitors annually—we saw a likely institution to bring the collection back into the mainstream of research. In fact VPI's collection, which focuses on the fish of the southeastern United States, will be a boon to our own collection (which had been weak in that area) and to the graduate student's progress in particular where there already is interest. Some of the fish groups being studied occur in the Southeast, and are well represented in the new collection.

The other two major acquisitions were collected more recently and closer to home. One was by the Power Authority of the State of New York, responsible for monitoring the effect of nuclear powerplants on the Hudson's environment, and the other came from Laufer, Maturi, and Shell's, the engineering firm contracted by Cor Edeson (under a court order) to survey the river and determine the environmental impact of their plants including the Indian Point Nuclear Reactor. The two collections together number more than 50 thousand lots.

Both of these collections were fine consuming and expensive, but their purpose was to answer a specific question: if Con Edeson modified the aquatic environment—in this case by sucking large quantities of water out of the river to cool power plants, then returning it as an obviously modified state—how would this disrupt the life cycles of the creatures in the water? The study determined that most adult fish could swim against the Intake current and therefore escape being sucked into the system. Larval fish could not, however, so the utilities are required to time their maintenance shutdowns between spawning periods.

But once this work was accomplished, a large number of fish specimens were lying around not being used up storage space. Rather than destroy them, they were offered to the Museum.

The impact study collections are still packed in drums waiting to move into a newly planned addition to the department's storage facilities. This will be equipped by a generous grant from the National Science Foundation. The Hudson River specimens need to be identified and catalogued. The VPI specimens are unpacked and being readied for incorporation into the main collection.

Collecting is getting more and more expensive, and it probably will never get less. The collecting for the Western environmental impact study, for example, cost an estimated $5 million, and that doesn't include travel to another continent. Collection serves many important practical functions, however. When some years ago the government discovered the high mercury levels in game fish, no one was sure whether the level was normal and had always been that high, or if the mercury was a newly introduced contaminant. What they needed to answer the question were samples of game fish going back to before 1900, and of course one of the places to find them was a collection such as ours.

With each specimen collected, with each one studied, we increase our understanding of the natural world. With each one stored we retain the ability to answer questions yet unasked.

— Stanton G. Onier

Dr. C. Lawett Smith, (left) curator in the Department of Ichthyology, collecting fish in a river in upstate New York.

Dr. Donn Rosen, curator in the Department of Ichthyology, with a member of the departmental collection. He and the other current curators of the department have increased the size and scope of the collection to one of the greatest in the world.

Technology has simplified collecting and studying fish in the last fifty years. The aquaculture, for example, allows a scientist to observe habits first-hand.
Notes

**Special Exhibitions**

**Star Gods of the Ancient Americas Through March 27**

The first major exhibition ever of ancient Americans' fascination with the heavens. A vivid display of works in gold, turquoise, wood, stone, textiles, and ceramics representing three thousand years of images of the sun, moon, stars, and planets.

**1982 Origami Holiday Tree**


**Exploring the Deep Frontier**

January 18 through May 15 in the Roosevelt Rotunda, second floor. A collection of photographs, exhibits, and equipment showing people's progress in overcoming the obstacles of deep ocean exploration. Displays range from primitive diving bells to space age diving suits and submarines. There is a companion exhibit of Deep Ocean Photography (See article page 1.)

**February at the Museum**

Black History Month

Leonhart People Center

Weekends from 1:00 to 4:30 p.m.

Music from Wesleyan Gamelan Orchestra

Tuesday, February 2 at 7:30 p.m. Auditorium. Tickets required. (See article page 3.)

**Galactic Health Adventure with Slim Goodbody**

Saturday, February 2 at 2:30 p.m. Auditorium. Tickets required. (See article page 3.)

**Education Courses**

Begin Monday, February 21. (See pages 5 to 7.)

**Membership Benefits**

Participating and Donor Members receive:

- Free admission to the Museum for up to two adults and four children
- One year's subscription to Natural History magazine
- Six free tickets per year to the Planetarium
- 10% Discount at all the Museum Shops and on most movies in the Museum

One year's subscription to the newsletter Rotunda.

**Planetary Events**

Star of Wonder.

Through January 4, 1983. What was the "Star of Wonder" that led the wise men on their journey to Bethlehem? Was it a comet, an asteroid, a bright meteor? Some have suggested that it was a supernova or even a rare grouping of planets. This show is a celebration of the holiday season for the whole family.

**Wanderers in the Night**

January 5 through February 28. Learn the secrets of the planets, their legends and actual origins, and what modern science has determined about their physical properties. Explore the fascinating history of each from the time of ancient Mercury to cold Pluto.

Sky show topics:

- Workdays: 1:30 and 3:30 p.m.
- Saturdays: 11 a.m. and hourly from 1:00 to 5:00 p.m.
- Sundays: 1:00 to 5:00 p.m.

**Planetarium Highlights**

Tours.

For the new Museum visitor as well as the veteran Museum goer, the Planetarium Tours offer fascinating glimpses into the history and exhibits of the Museum's most popular halls. The tours leave regularly from the second floor Information Desk. If you wish to join a free tour, please ask at the information desk for specific tour times.

**Programs and Tours**

**Museum Information**

**Museum Hours:**

Monday, Tuesday, Thursday, Sunday: 10:00 a.m. to 5:45 p.m.

Wednesday and Friday: 10:00 a.m. to 9:00 p.m.

**Cafeteria Hours:**

Daily from 11:00 a.m. to 4:45 p.m.

Wednesday, Friday and Saturday evenings from 5:15 to 7:00 p.m.

**Museum Parking Lot:**

Located on 81st Street. Open Monday through Thursday: 9:30 a.m. to 9:30 p.m. Friday through Sunday: 9:30 a.m. to 12:30 a.m. Rates are $5.50 for cars, $6.50 for buses.

**Parking is Limited**

**Lion's Lair:** Relax and enjoy refreshments with the animals in one of the halls.

Wednesdays: 3:00-7:00 p.m.

Saturdays and Sundays: noon-5:00 p.m.

**Southwest Research Station:**

Museums Members have visiting privileges at this outstanding post. If you are planning a visit of less than one week, write ahead for details. Southwest Research Station, Portal, Arizona. 85632, or call (602) 558-2396. For visits of more than one week, applications should be made to the Deputy Director of Research, American Museum of Natural History.

(212) 873-1307

**Itineraries:**

Members' Tour: Mexico and Central America

Wednesday, February 2 at 6:30 p.m.
Saturday, February 5 at 10:30 a.m.
Sunday, February 6 at 11:00 a.m.
Wednesday, February 9 at 6:30 p.m.
Saturday, February 12 at 10:30 a.m.
Sunday, February 13 at 11:00 a.m.

Number of people

Name

Address

City

State

Zip

Daytime Phone

Membership category

Please mail with a self-addressed stamped envelope to:

Museum Highlights Tours, Membership Office, American Museum of Natural History, Central Park West at 79th Street, New York, 10024. Registration closes January 21.

**Members' Tour: Meso-America**

Join us for a tour of the Hall of Mexico and Central America and one of the finest collections of pre-Columbian artifacts in the world. The tour will provide an introduction to the Aztec, Maya, Olmec and lesser known cultures of the region. Members will learn about the magnificent temples, complex imagery and beautiful artifacts that have been the source of fascination and mystery to scholars and laymen alike.

All tours are led by volunteers from the Museum's Highlights Tour program. To use the admission coupon.

**The Treasures of Meso-America**

**Members' Tour: Mexico and Central America**

Wednesday, February 2 at 6:30 p.m.
Saturday, February 5 at 10:30 a.m.
Sunday, February 6 at 11:00 a.m.
Wednesday, February 9 at 6:30 p.m.
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Number of people

Name

Address

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Please mail with a self-addressed stamped envelope to:

THANKS FOR THE MEMORIES.

As the American Museum of Natural History, we have many happy memories of 1983. It was a very good year. Thanks to all our friends and supporters, we have been able to open the doors to millions of visitors throughout the year. We have been able to increase the hours we are open by 40%. So more than 21 million people were able to visit last year. From around the world, our visitors are our greatest treasure. They come to see the Halls of Minerals and Gems, the Hall of Asian Peoples, and all our other exhibitions, great and small. And should I mention the elephants? They are a great deal of fun. We have a lot of fun and we never forget to give thanks.

AMERICAN MUSEUM OF NATURAL HISTORY.
Focus on the Monkey Business

A recent poll reported the startling fact that 44% of Americans believe the biblical story of creation to be a scientifically accurate theory of human evolution. In response, the Department of Education has included two series of lectures addressing this problem in their Spring Afternoon and Evening Lecture Series. "Humon Evolution" (three Monday evenings starting February 28) will be taught by Drs. Niles Eldredge and Ian Tattersall, curators at the Museum and co-authors of the recently published book "The Myths of Human Evolution." Their three lectures will explore evolution theory since Darwin and provide an overview of the hominid fossil record. Primates: Behavior, Ecology and Conservation (five evenings starting Tuesday, February 15) will bring five outstanding primate researchers to discuss their research, the relevance that studying our closest cousins has in helping us understand our own origins, and the impending extinction of most of the 175 species of non-human primates. A wide variety of other courses explore wild flowers of the Northeast, how to find your dinner growing in fields and vacant lots, the fascinating world of insects, anthropology, through films, festivals around the world, and the music of the Andes Mountains in South America. In addition, there are workshops in weaving and animal drawing, and weekend fieldtrips both local and the length of the East Coast. A full course listing appeared last month in the January issue of Rotaconda, and many courses fill rapidly. For more information call the Department of Education at (212) 873-7507.

This young Rhesus monkey is a macaque from Asia. Many species of primates are included if the course "Primates: Behavior, Ecology and Conservation" to be offered this spring.

Threads That Bind
Weekend programs throughout the month of February celebrate Black History Month. The festival includes lectures, musical programs, storytelling and two exhibits. Page 2

Fading Feast
Raymond Sokolof, author and columnist in Natural History magazine will present a lecture on regional American foods and his attempts to document them before they vanish. Page 3

Stories of the Stars
Storyteller Laura Simms will spin the yarns of the ancient cultures of the Americas, relating the myths that grew from their understanding of the stars. Page 3

The World of Animals
Bill Robinson will return to the Museum with another all-new program on the wonders of the animal kingdom. Page 6

Goodbody Goes Galactic
Join Slim Goodbody on a Galactic Health Adventure as Members premiere his new show at the Hayden Planetarium. Page 6
The Folk Inheritance of Black America
Weekends in February, Leonhardt People Center. Free.

To commemorate Black History Month, the African American program of the Department of Education will present special weekend programs throughout the month of February.

The cultural heritage of African and African American peoples will be highlighted through storytelling, traditional music, and visual arts. The program will feature folk tales, proverbs, and songs by African and African American musicians, with a special focus on the work of African American educators and artists.

For more information, contact the African American Program at (212) 873-1500.
**True Grits: In Search of American Cuisine**

Wednesday, March 16, 7:30 p.m. Auditorium
$2.50 and Open Only to Members and Their Guests

On an unusual mission for the Natural History magazine, Raymond Sokolov has crossed the country over the past few years in search of traditional regional foods. He has managed to locate — on rural back roads from Eastport, Maine, to San Diego, from Puget Sound to Key West — some of the native individuals who are still willing to combat the Gollaths of modern industrialism in order to preserve their customs and satisfy their palates. Sokolov talked with these last practitioners of regional cuisine, collecting their recipes and recording the food wisdom of our past before it fades completely from view. Raymond Sokolov will discuss regional American cuisine and the experiences in search of it for our March Members' Evening program. Drawing from his vast and fascinating experiences he will give several examples of regional foods, explain why they are so special to the people who make them, and show why they are rapidly disappearing.

At the end of the program he will show Stanley Woodward's film, Grits, on the corn staple unique to Southern cuisine.

To order tickets please use the adjacent coupon.

**True Grits Wednesday, March 16**

This program is open only to members of the museum and their guests. Participating, Donor, and Contributing Members are entitled to four tickets at the Members' price of $2.50. Associate Members are entitled to one. All other tickets are $6.00.

Number of Members' Tickets X $2.50 $
Number of additional tickets X $5.00 $
Total amount enclosed $ 
Name: 
City:  
State:  
Zip:  
Membership category:  
Daytime Phone:  
Make check payable to American Museum of Natural History and mail with a self-addressed, stamped envelope to True Grits, Membership Office, American Museum of Natural History, Central Park West at 79th Street, New York, NY 10024.

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**Starlore of the Ancient Americas**

Friday, March 4, 7:30 p.m. Kaufmann Theater
$4.00 and open only to Members and their guests

Anyone who visits our current exhibition *Star Gods of the Ancient Americas* will marvel at the wonderful imagery that Native American people have used to associate with the heavens. Myths and legends evolved to explain the origin of day and night, the sun and the moon, and the movement of the stars across the sky. According to Pueblo Indian myths, the Milky Way is made of animal tracks and is the path of dead souls across the sky. Mayan legend has the moon and sun as twin heroes who defeated the Lords of Death in a ball game played in the underworld.

Members can celebrate this rich Native American folklore with storyteller Laura Simmons in a program entitled *Starlore of the Ancient Americas*. Accompanied by Steve Gemuene on flute and pan pipes, she will sing tales from peoples of both North and South America. There will be an audience talk of the birth of dawn and the morning star, a Northwest Coast origin myth entitled *The Girl Who Walked Among the Stars*, and many more.

Laura Simmons has performed at the Museum numerous times, most recently in a special program *The Starlores*. She has told myths and legends throughout the United States and is a leader in the revival of storytelling as an art form. To register please use the adjacent coupon.

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**Man and Nature Lectures**

Dr. David A. Hamburg, professor at the Carnegie Corporation and a leading figure in health science and public policy, is the speaker for the 79th Lindblom Man and Nature Lectures. These lectures bring prominent scientists and physicians to the Museum to discuss their work and its impact on the critical problems and challenges facing humanity. Dr. Hamburg's subject is *The World Transformed: Critical Issues in Contemporary Human Adaptation*.

In his first lecture, Dr. Hamburg discussed how a better understanding of the behavior of other primates can help us to cope with life in the radically altered environment of the 20th century. The second and third lectures are:

**Tuesday, February 22 — Ancient Humans in the 20th Century: Problems Close to Home**

Dr. Hamburg will explore the suitability of our species to the drastic changes of the 20th century. He will examine from an evolutionary perspective such crucial problems as cancer, cardiovascular disease, infant health, adolescent development, and our aging population.

**Tuesday, March 22 — Ancient Humans in the 20th Century: Worldwide Problems**

Dr. Hamburg will discuss what science can contribute toward progress on critical and related world problems including health and populations in developing countries and nuclear conflict.

A limited number of tickets are still available for both lectures. For more information or to order tickets, please call (212) 873-1327.

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Flights of Fancy
Wednesday, February 23, 7:00 p.m. Kaufmann Theater. Free

An ancient Chinese creation myth tells of Pan Ku, a friendly giant who was hatched from a primordial egg. When he cried, his tears became all the waters of the world. When he died, his eyes floated into the heavens as the sun and moon, and the rest of him became the world and all its creatures. This is one of the stories depicted in Faith Hubley's film, Big Bang and Other Creation Myths, which will be included in a program at the Museum of six of her films. Big Bang begins with an animated interpretation of science's "Big Bang" theory — that the universe originated in a cataclysmic release of energy — which is followed by six animated creation myths from primitive cultures around the world.

Included are the African Bumba who vomited up the world creature by creature and the Yuchi (Native American) club who dug the earth out of a watery bowl of mud.

A second film, Enter Life, takes the viewer through an animated history of life on earth from a bubbling primordial ooze to the present and up the evolutionary ladder to the early life forms.

Faith Hubley worked for many years with her late husband John Hubley creating short animated films. The content of their films broke away from the clichés and "formulas" of cartoons, and thereby represented a significant development in the art of animation. Their goal was not to have the audience escape the cat, or for the prince to save the princess, but to "increase awareness, to warn, to humanize, to deepen our understanding of ourselves and our relationships with each other." Together they produced more than twenty films that received Academy Awards or nominations. Since her husband's death in 1977, Faith Hubley has continued to produce award-winning films.

The program, produced by the Department of Education, will be free to all Museum visitors. Seating will be on a first-come, first-served basis. Members are encouraged to arrive early. Below is a listing of the films in the program.

Note that they may not be shown in the listed order.

Big Bang and Other Creation Myths (11 mins)

Starline (6¼ mins)
Enter Life (6½ mins)
Step by Step (11 mins)
Voyage to Nest (9½ mins)
Sky Dance (11 mins)

Weather Wise
Wednesday, February 16, 7:30 p.m. Auditorium. Free and open only to Members and their guests

Years ago, if someone wanted to know what the day's weather would be like, they would simply look out their window and look at the sky. Now we turn on our television to look ahead. Weather forecasters are an integral part of any news team, performing their apparent wizardry with satellite photographs and charts of high and low pressure areas. In fact, the art of forecasting is a highly complex science.

Members are invited to step behind the curtain to hear one of these wizards explain how meteorologists create the daily forecast. Dr. William Gutsch will explain how, with the use of twenty-four hour ground and satellite observations, as well as balloons, radar and highly sophisticated computers, meteorologists track weather movements and predict how they will affect a particular area. In addition he will examine winter weather phenomena that affect the Northeast in particular. Using special satellite footage, he will track the birth and development of a winter storm.

Dr. Gutsch is Chairman and Associate Astronomer of the American Museum — Hayden Planetarium as well as science correspondent and meteorologist for WABC-TV. Before coming to New York City, he served as Staff Astronomer at the Strasbourg Planetarium in Rochester, New York and did the forecasting for the ABC and NBC affiliates there.

To register for the program please use the adjacent coupon.

Join us to learn how meteorologists, those wizards of weather forecasting, evaluate information from a surprising number of sources (from satellites to balloons) to determine what the next day's weather will bring.

Weather Wise, Wednesday, February 16
This program is open only to Members of the Museum and their guests. Participating, Donors, and Contributing Members are entitled to four free tickets. Associates are entitled to one. Additional tickets may be purchased at $4.00 each.

Please send us your tickets.
Name:
Address:
City: State: Zip:
Daytime Phone:

Membership category:
Please mail with a self-addressed stamped envelope to: Weather Wise, Membership Office, American Museum of Natural History, Central Park West at 79th Street, New York, NY 10024.
Members' Notebook
Bringing Back an Underwater Fairyland

The coral reef community on the island of Tongareva includes not only the marine life such as coral, mollusks and gloriously colored fish, but the natives of the island, as well.

In the vast expanse of open sea about 2000 miles due south of Honolulu, lies the coral atoll of Tongareva. Composed of a series of long, narrow islets connected by stretches of coral reef, it forms a ring-shaped island eleven miles in diameter. The coral, crushed against the outside of this ring with considerable violence, but the tough coral walls enclose a peaceful lagoon. Magnificent underwater formations of the island's coral grow here, undisturbed by the ocean's force. Here also three countless marine creatures in tropical abundance, including the pearl oyster. The nature of the island once doved for these, retrieving it in great quantity and selling them to the trade to traders who sought them for the indiscrimate "mother of pearl" that lines their interiors.

These facts were noted by Dr. Peter Buck, director of the Bishop Museum in Honolulu, who had spent time studying the island's inhabitants in the 1930's. He passed this information to his friend Dr. Roy Waldo Miner of the American Museum of Natural History -- a curator in the Department of Invertebrates who wanted to collect and study some of the oysters. Miner's intention was to build a large, representative group in the Hall of Ocean Life that would include not only the oysters and the coral reef community, but the native divers in the act of collecting the oysters as well.

Preparing this underwater group posed some difficult problems. Habitat groups at the Museum traditionally document an actual location. Beginning with the magnificent Hall of African Mammals, safaris have been made with professional artists to sketch what would become the background and prepare studies of plant and animal life to make up the foreground. To continue in this vein meant not only finding an area representative of the community, but documenting it with painstaking accuracy as well.

The fact that it was underwater was not grounds to fabricate information and create a "typical" example. The ecosystem of the coral reef community was already known to be extremely intricate and interrelated, and much scientific information would be gathered in years to come. If assumptions were made based on existing information, errors might be made that would show up later. Better to document it exactly as found and insure its timelessness.

So in the fall of 1936, through the generosity and cooperation of Templeton Crocker of San Francisco who placed his schooner yet, the ZACA, and its crew at the Museum's disposal -- the expedition to Tongareva slipped through a narrow pass in the coral wall and into the quiet lagoon. The Museum personnel consisted of Roy Waldo Miner as leader, Willys Rosette Betts, Jr. as field associate, and Chris D. Olson as the departmental artist and modeler. Tsolos Aseda, a Japanese artist, was signed on to capture the delicate colorings of the coral reef and to do the life-like reproductions of fish, which were known to fade in captivity. The crew of the ZACA formed the core of the support staff.

Several facts -- The before that an expedition was possible, the costs involved, the possible research they could get in and out of the boat. By using great helms into which air was pumped from the surface, the scientists and artists could descend into the environment they were exploring and document the details as they were collecting on land. Being underwater they could also experience first-hand the wonder and magnificence of the coral shoals they were trying to reproduce. Dr. Miner wrote of his first dive:

I turned from the ladder and saw before me the procession of the shoal, rising above me like terraces, with overhanging foliage of fantastic shapes, adorned with the most beautiful corals imaginable in deep purples, blues, browns, softens, orange and green. Their shapes varied from huge rounded domes to the most delicate branchlets, intermingled with countless lilliputian lores. Round about me and above my head floated figures of the most gay and wild combinations of color and form, many of them reflecting the sunlight like jewels of fantastic brilliancy and changing brilliant hues. The immediate neighborhood was as transparent as air, and as rich a field for all diurnal divers before the gathering luminous blue fog of the watery distance limited my vision. The under-surface of the water above me gleamed with silver, reflecting like a mirror when quiet, and changing into dazzling white when a breeze tore the surface into agitated waves and caused it to break.

I took a step forward, half floating. A push of my foot sent me on a gentle, slow-rolling stride over a pinnacle as high as my waist, and I settled down on the other side, my toes balancing on a groan purple stone, as lightly as thistledown.

The final element of the habitat was the divers themselves. Photographic studies were made of two natives, both under water and on land, and from these the sculpted figures could be made.

The final assembly of the exhibit required casting wax molds of all the fish, coral and sea anemones, coloring them accurately, recoloring the faded coral, and creating "new growths" where the tones proved unsatisfactory. The film and underwater photographs provided all the necessary details, but it required five artists and their assistants to translate the information into a reality.

In an article describing the finished project, Dr. Miner wrote:

It reproduces two Tongareva pearl divers plunging down into a coral gorge, laboriously repeated from one of the magnificent formations that we actually visited on the sea floor of Tongareva. In the midst of this submarine fantastic scenery, the divers are peeling portions of dead coral shells off of the ocean floor, under the direction of a chief. The chief, above, is feeding the divers raw eggs and grape paste to prevent phosphorus and gastroenteric canal growths from their food. It is typical of a more gaudy but prettier kind present among seaweed gardens of stone flowers, growing in all the soft colors of the spectrum, while fishes of every gay hue dart past them.

In the center of the foreground, prominently placed is the 900 pound spiral acropora coral, the pride of the expedition. Beneath it stands a scarlet, six-footed, pointed anemone with hundreds of small colored pinpoints mesmerizing from its upper surface, still threatening the scientist who collected it, the artist who recreates it, and the sharp-eyed visitors who happen upon it every day.

-- Stanford Oser

Using the cameras, Dr. Miner shot thousands of feet of film, in order to document the breeding life among the reefs. Both he and Betts carefully wrote out all of their observations, so much of what they saw had never been documented. There was no telling what might or might not prove useful. With the help of native divers, they collected tens of beautiful corals, the largest and finest being a beautiful spiral growth weighing 900 pounds and measuring five feet in diameter.

Colorful fish, innumerable mounds and octopuses, scores and scores of pearl oyster shells, and other invertebrate creatures were gathered and brought to the surface. Those that were expected to lose their color were given to Tsolos, the Japanese artist, who would quickly make an accurate record of their color patterns. Each evening he would then translate his sketches into finished paintings to be used as guidelines when the exhibit was prepared. Plaster models were then made from these sketches, and when the exhibition stuff, using Tsolos's paintings, could recreate not only the kind of fish, but the exact individual for all the species of coral, there remained the problem of documenting the corals. Both the background and foreground would be made up largely of these objects, and their accuracy was critical to the integrity of the exhibit. The thousands of feet of film would provide all the needed structural information, but as they were filmed in 1936, they were of course in black and white. For a comparable land exhibit, the expedition would simply have had an artist paint a series of landscapes.

Now, down the ladder, came another pan of types. It was Olson, equipped with the特意 helmet. In his hand he had a strange, fluted, red tube, of all colors arranged around its margin in the crown of his helmet. When he reached the sea bottom, he sealed until an end of the same metal was lowered, framing a sheet of plate glass with oiled can was attached to it. He then closed this tube a short distance away, set it up on its base, and, standing before it, looking like a tangible, his diving helmet, proceeded to lay of oled on the oiled canvas, pressing them down with his palette knife, fine painting myriad colors and combinations of the coral formations.

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-- Stanford Oser
A Prairie Dog and a Kinkajou, Too

Sunday, March 27. Kaufmann Theater
11:00 a.m., 1:00, 2:30, 3:45 p.m.
Free and Open Only to Members

Bill Robinson, one of our most popular family lecturers, will return to the Museum this spring with a kinkajou, a scarlet macaw, a prairie dog and a host of other live animals to present an all new World of Animals program. Mr. Robinson will discuss the lifestyles of each of the animals, the myriad ways they have adapted to their environments and their ecological importance. He will also explain how the long tail of the kinkajou, a member of the raccoon family, has been dramatically altered by the forces of central and South America. The program will also look at the day to day dilemmas animals are threatened by humans — some because of their population growth, some because of their unappreciated value as pets, and some because of their unappreciated value as the prairie dog which has been killed off because it damages crops and competes with livestock for food.

To register for the program, please use the adjacent coupon. Early reservations are strongly advised.

Handwritten notes:

How does the long tail of the kinkajou help it survive in the rain forests of South America? Find out at Bill Robinson’s World of Animals.

Slim Goodbody Goes to the Stars

Saturday, February 12. Hayden Planetarium
Members Preview, 10:15 and 11:30 a.m.
$3.00 for Adults, $2.00 for Children

How would your body survive in an alien world? What precautions would you need to take to protect your health? If you only had the stars and planets to navigate by, how would you find your way? Members and their children are invited to preview Slim Goodbody’s new Galactic Health Adventure at the Planetarium. Upon entering the Sky Theater you will be enticed into the National Air and Space Administration’s (NASA) and become a member of Captain Goodbody’s crew. Once safely lifted off of the atmosphere by NASA’s carrot-shaped rocket ship, the crew will join Captain Goodbody in specially designed galactic exercisers and songs, and will learn how to navigate by the stars. The mission will crash through an asteroid belt, and might accidentally wander into areas of space known to be inhabited by pirates. In addition to you will visit other planets and their moons and learn how your body would fare in such hostile environments.

Before joining NASA, Captain Goodbody was a television star on planet Earth’s Captain Kangaroo Show. He is the author of two books, Mr. Slim Goodbody Presents the Inside Story, and What Can Go Wrong and How to Be Strong as well as a record album designed to teach children about health concepts. He is now expanding his performance to include other worlds.

The show, recommended for all ages, will appear February 14 through 19, and March 1 through April 2. February 14 through 18 the show will be at 11:30 a.m. February 19, and March 1 through April 2 it will be at 11:00 a.m. For more information call (212) 321-6050. The special Members’ preview on Saturday, February 12, will be the only show for which you can reserve tickets in advance. For Members’ preview please use the adjacent coupon.

Slim Goodbody Saturday, February 12

| Number of children’s tickets | $2.00 |
| Number of adult tickets | $3.00 |
| Total payment enclosed | $ |

10 or under (Please indicate a first and second choice if possible)

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

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

Fiesta Kubata

Saturday, February 26. 1:00 and 3:00 p.m.
Kaufmann Theater. Free

An “orisha” is a deity of the Yoruba people of Nigeria whose specific characteristics oversee and determine the functions of humans and nature. When many Yoruba were taken to Cuba as slaves, the Spanish colonizers tried to force Catholicism on them. In the face of heavy-handed missionaries, the Yoruba disregarded their “orishas” assigning each the figure of a Catholic Saint, so they could worship in peace.

The Fiesta Yoruba, as danced by Roberto Borrell y su Kubata, recreates the song, dance, and rhythms used by the Yoruba to worship their “orishas.” This is one of several traditional Cuban dances performed by Grupo Kubata in their program at the Museum.

Made up of sixteen dancers, drummers, and singers, Roberto Borrell y su Kubata is dedicated to discovering and preserving the traditional forms of Cuban music and dance. Their program will include the Aftakua, a secret society dance of African origin, considered by many observers to be religious (here again, to continue their traditional culture without interference, they incorporated a Christian cross into the ritual), and the Comparsa, the celebratory street march used in such festivals as Día de los Reyes (Day of Kings) and Corpus Christi.

The program is produced by the Caribbean program of the Department of Education in cooperation with Boys Harbor, Inc. Free tickets for both performances will be distributed on a first-come, first-served basis near the first floor Information Desk beginning at 11:30 a.m. on the day of the performance. Please note that no more than two tickets will be given to any one adult in line.

The limited tickets for both performances are expected to go quickly, so Members are advised to arrive early to avoid disappointment.
Visiting privileges at the Museum’s research station in Arizona also offer travel opportunities. For Membership information call (212) 873-1327.

March at the Museum

Starlore of the Ancient Americas: Friday, March 4. Kinect Theater. Reservations required. (See article page 21.)

True Grits: Wednesday, March 16. Reservations required. (See article page 3.)

Koup Film on Carne- rook’s rain forest. Wednesday, March 9 at 6:30 p.m. Auditorium.

Bill Robinson’s World of Animals: Sunday, March 27. Reservations required. (See article page 6.)

Naturemax Information

The Naturemax Theater is equipped with a movie screen four stories tall and sixty-feet wide, as well as an extraordinary sound system and a projector for showing IMAX films, made ten times larger than ordinary movies. The theater is located off of the 77th Street Lobby near the Great Canoe. Schedule and films may vary, so call the Naturemax Recording for current information before visiting the theater. (212) 490-0900. Currently, the films are:

To Fly!, a history of American aviation complete with barn-storming in the redwood, balloting over Niagara Falls and hang-gliding off volcanic cliffs in Hawaii.

Living Planet, an overview of the evolution of life from a drop of water to the technological achievements that brought about New York City, and space exploration.

Man Belongs to the Earth, a study of the human impact on the fragile world we inhabit.

Museum Information

Museum Hours: Monday, Tuesday, Thursday, Sunday, 10:00 a.m. to 5:45 p.m. Wednesday, Friday and Saturday, 10:00 a.m. to 9:00 p.m. Café Hours: Daily, from 11:00 a.m. to 4:45 p.m. Wednesday and Saturday, evenings from 5:15 to 7:00 p.m.

Museum Parking Lot: Located on 81st Street. Open Monday through Thursday, 9:30 a.m. to 9:30 p.m. Friday through Sunday, 9:30 a.m. to 12:30 p.m. Rates are $3.50 for cars, $6.00 for buses. Parking is limited.

Lion’s Lair: Relax and enjoy refreshments with the animals in the halls. Wednesdays: 3:30 p.m. Saturdays and Sundays noon.

Southwest Research Station: Museum Members have visiting privileges at this outpost. If you are planning a visit of less than one week, write ahead for details. Southwest Research Station, Portal, Arizona. (602) 559-2396. For visits of more than one week, applications should be made to the Deputy Director of Research, American Museum of Natural History, Central Park West at 79th Street, New York, NY 10024, or call (212) 873-1120.

Coat Checking: For your convenience the coat check room is located in the basement next to the cafeteria, and on the second floor at the main entrance. There is a 40c charge per item.

Planetarium Events

Wanderers in the Night: Through February 28. Learn the secrets of the planets, their legends and actual origins, and what modern science has determined about their physical properties. Explore the history of each from suchMEReY to cold. Dark Photos. Stay show times: Wednesdays 1:30 and 3:30 Saturday, 11 a.m. (except February 19), and hourly from 1:00 to 5:00 p.m. Sunday, hourly from 1:00 to 5:00 p.m.

Admission for Participating, Donor and Emeritus Members is $7.25 for adults, $1.25 for children. For non-member prices call 873-8829.

Slim Gentry’s Galactic Health Adventure: Blast off with the stars of Captain Kau- goro to learn how to dance like the stars and how your body would survive on foreign planets. (See article page 6.)

Show times:

Special Members’ Preview (reservations required) Saturday, February 12, 10:15, 11:30 a.m., $3.00 for adults, $2.00 for children. (See article page 6.)

February 14 through February 11, 11:25 a.m. Saturday, February 19, 11:00 a.m.

Admission for Participating, Donor and Contributing Members is $3.00 for adults, $2.00 for children. For non-member prices call 873-8828.

Cats, Kids and Killer Whales

Sunday and Monday, February 20 and 21

Kaufmann Theater. 1:00 and 3:00 p.m. Free

Movies to laugh at, to learn from and movies that dispel common myths are all part of the Family Film Festival at the Museum produced by the Media Center for Children. This two-day film festival includes ten movies about ani- mals and people throughout the world.

Laugh along with Felix Gets the Can as that famous feline with more tricks in his bag, and two of his tricks in his mouth, tries to get a meal. Listen to a ten-year-old boy’s adventures in the desert with his monkey. See the story of a man with a monkey and a cat. Anansi the Spider. The Ashanti’s trickster is rescued from various predicaments. We Call Them Killers, questioning the myths about killer whales.

3:00 p.m. (both days) - "Cheechako’s 3rd Canada Day," a Alaskan baby polar bear. A Little Girl and a Gunny Wolf. Red Riding Hood with a twist. Right Here, Rocky Mountain Sheep. My Friends Call Me Tony, a blind boy, and how he copes. Teach Me to Dance, growth of a friendship.

3:00 p.m. (both days) - "Cheechako’s 3rd Canada Day," A Little Girl and a Gunny Wolf. Red Riding Hood with a twist. Right Here, Rocky Mountain Sheep. My Friends Call Me Tony, a blind boy, and how he copes. Teach Me to Dance, growth of a friendship.
African Textiles
Opens Wednesday, June 15, in Gallery 3. Free

The most obvious use of textiles is as clothing, either for modesty, warmth, costumes, or ceremonial dress. But textiles are also used to drape shrouds or houses, to appease members of the spirit world, to armor horses, and to act as currency.

African Textiles is the first major exhibition devoted to the textiles of the continent of Africa. The exhibition contains striking examples of craftsmanship ranging from the magnificent colors and patterns of the court dress of kings to quilted cotton horse armor. It also illustrates both the simple and complex technological processes used in the creation of these fabrics. Seven different kinds of loom will be on display, with photo essays and diagrams that explain the techniques and artistry involved. Each raw material — cotton, silk, wool, raffia, and lace — will be shown in the different stages of textile production: collecting the material, spinning the yarn, weaving, embroidery, and dying.

The exhibition also touches on the social and economic roles of male and female weavers, exploring from an anthropological point of view the differences between cultures throughout the continent. The narrow “strip weaving” of West Africa, for example, is done only by men, in part because the strip looms take up a great deal of space and require weaving outdoors. The looms used by women stand upright, usually against a wall, so they can weave in their houses without being drawn away from their other domestic responsibilities.

African Textiles marks the first time that the British Museum has ever lent an entire major exhibition from its collections to any institution abroad. Their collection of African textiles and weaving equipment is the oldest and most extensive in the world. The exhibition will be free to all Museum visitors.

For information on lectures, performances, and the special Members' preview, please turn to pages 6 and 7.
The cover headline of the most recent issue of Museum News (the official publication of the American Association of Museums) succinctly summed-up the problems facing museums across the United States: “Inflation, Recession, Government Cuts.” According to the story, more than half the museums in the country have suffered a reduction in government funding, and more than one-third have been forced to reduce their budgets to some extent.

The American Museum of Natural History is no exception. Our government support has not kept pace with inflation, and as I am writing this article we are being threatened with cuts in city and state funding. At the same time, the costs of everything from mailing this newsletter to taking care of the dinosaurs have risen.

In addition to these cuts and rising costs, it will be necessary for us to raise our Membership rates. Effective this July, Associate Membership will increase from $35 to $40, Participating from $60 to $75, and Honorary from $75 to $100. We want you to hear this increase before it appears on your renewal card. We also want to let you know that all of our present Members will have one more opportunity to renew at the old Membership rates. An announcement about this renewal offer will be sent to you in a separate mailing, or along with your renewal card.

We are also introducing two new categories of Membership. So many of you gave generous donations above your Membership dues that we are formally establishing these categories to recognize those who have been our most enthusiastic donors. The highest contribution category honors those who give $100 or more each year.

In addition to the benefits you now enjoy as a Participating or Honorary Member, these new categories offer the opportunity to become even more acquainted with our collections, our scientists and the work they do. Friends and Benefactors will be included in departmental open houses where they will have the rare opportunity to meet and chat with the scientists under informal conditions. In addition, they will be invited to several gala events and special functions each year.

These new categories are primarily an acknowledgment of your generous level of support, but they are also part of the Museum’s continuing efforts to broaden our base of support in order to meet the economic challenges of the 1980’s. At the present time, the Development Office is working hard to establish a strong constituency of friends. If you have any questions regarding these new categories, please call (212) 673-5927.

Henny H. Schulson

A Free Book and a New Benefit

I am pleased to announce the recent inauguration of the Members’ Book Program. It will give Members the opportunity to purchase superb natural history books at discounts of up to 40% off the publisher’s price. Notices of available books will appear in Roundup and Natural History magazine.

To kick off the program, we would like to offer Members a free copy of Arts, Indians, and Little Dinosaur, a 377 page paperback of the best from 75 years of Natural History magazine. It includes classic pieces by such distinguished scientists as Margaret Mead, Teilhard de Chardin, George Schaller and Lewin Thomas. If you would like to receive a copy as well as the list of currently available books, please send your name and address with $1.00 for postage and handling to Members’ Book Program, Room 10, American Museum of Natural History, Central Park West at 79th Street, New York, N.Y. 10024. Or you can pick up a free copy on weekends at the Membership Desk on the first floor, by the Great Canoe in the 79th Street Lobby.

Henny H. Schulson

The Black West

Wednesday, May 18, 7:00 p.m. Kaufmann Theater, Free

James Beckworth was one of the West’s outstanding frontiersmen, and he eventually became a chief of the Crow Indians. He was also a co-founder of the city of Denver and discovered the lowest point across the northern Sierra Nevada, enabling thousands of settlers to flock to California during the gold rush. James Beckworth was a black man.

The history of the West is full of such figures. One fourth to one third of the cowboys were black, and blacks of the West enjoyed a freedom that was unknown in the East. Tempers, however, built churches and schools, were in good faith, and rode the range, both on horseback and in the deep woods.

When the epic of the West was written, most blacks were left out of this American saga. Because of this, whites cannot appreciate the contributions of Afro-Americans to the development of the nation, and blacks do not recognize their legacy in the country.

In a slide-illustrated lecture that is the result of years of research, William Loren Katz will discuss this lost history of Black America. "They rode the trails," says Katz, "they never had the opportunity to ride across the pages of history books. T.V. Westerns and Hollywood movies." William Loren Katz is the author of numerous books on blacks and other minorities, including The Black West and Black People Who Made the Old West. He has taught at Columbia, N.Y.U., and is currently teaching at The New School for Social Research. The lecture, sponsored by the African American Program of the Department of Education, will be free to all Museum visitors. Seating will be on a first-come, first-served basis. Members are advised to arrive early to avoid disappointment.

It’s Not Just a Film, It’s an Adventure!

For summer film schedules call (212) 496-0900.

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Will Sidney Horenstein Buy the Brooklyn Bridge?

Sunday, May 22, 10:00 a.m., 12:15 and 2:30 p.m.
$5.00 and open to Members and their guests

This May the Brooklyn Bridge will be 100 years old. To celebrate its centennial anniversary, Members are invited to join Museum naturalist Sidney Horenstein for a natural history tour of the Brooklyn Bridge/City Hall area. The tour will provide a glimpse of what the city used to look like. Members will walk along New York’s original shoreline and visit the site of what once was the island’s largest natural pond. Mr. Horenstein will explain how Pearl and Water and Front streets got their names.

And of course the tour will go to the Brooklyn Bridge. Members will learn about the bridge’s history and the geological history of the stones — taken from almost two dozen quarries — used to build it. A highlight of the tour will be the search for the 300 million year old fossil fishes embedded in the bridge’s walls.

The tour will last approximately two hours and will be held rain or shine. To register for the tour please use the accompanying coupon. Early reservations are strongly advised.

Happy 100th Brooklyn Bridge!

Sunday, May 22
Tours are open only to Members of the Museum.
Please indicate a first and second choice of times.
10:00 a.m.  12:15 p.m.  2:30 p.m.
Number of people: I have enclosed my check for $ (5.00 per person)
Name:
Address:
City:  State:  Zip:
Doxey Phone:
Membership category:

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

Black and White and Read All Over

Wednesday, May 4, 7:30 p.m. Auditorium
Free and open only to Members and their guests

Why does a zebra have stripes? Are they used for camouflage? Do they help zebras identify one another, or are they part of the zebra’s warning system? How does the white tail deer use his white rump? Does it tell predators “I’ve seen you so don’t try to catch me”? And what about the black and white markings of skunks, Philippine stink-badgers and other animals that emit foul odors? Do they warn enemies to “Stay away or else!”

Dr. Richard Van Gelder of our Department of Mammalogy will investigate these and other questions at our May Members’ Program when he presents a slide-illuminated lecture on the role of color as animal communication.

Dr. Van Gelder will take a look at the markings and skin colors of animals from around the world, including marsupials from New Guinea, geckos from Africa, and porcupines of North America.

Dr. Van Gelder has been on the staff of the Museum since 1956. He is a popular author, his most recent book being Mammals of the National Parks, and he has done field studies of mammals around the world.

This program was originally announced in the April issue of Rotanda. A limited number of tickets still remain. For further ticket information, please call (212) 873-1327.

Do the black and white markings on a skunk communicate to other animals that they should stay away?
Latin American Month

May is Latin American Month in the Lehmanhardt People Center. On each weekend, different folk artists from the many countries of South and Central America will demonstrate the crafts and music that make up the unique cultural heritage. The first half of the month will focus on Central America, and the second half on South America.

Included will be dance performances by the Ballet Folklórico Centro del Mexicano, the Danzantes Danciers, the Spanish-American Folks Group and the Grupo Mole de Panama. Andean music by Grupo Andino; and numerous other lectures and demonstrations focusing on the traditional folklore and folktales of Latin America.

The programs in the Lehmanhardt People Center run from 1:00 to 4:30 p.m. on Saturday and Sunday afternoons. In conjunction with these programs, films and demonstrations may be scheduled in other areas of the Museum. Check the calendar (page 12) for more information.

Sponsored by the Caribbean Program of the Department of Education, the programs are free to all Museum visitors. Seating is on a first-come, first-served basis.

The African Roots of Cuban Jazz

Lecture: Wednesday, June 8, 7:00 p.m. Kaufmann Theater. Free
Performance: Sat., June 11, 1:00 and 3:00 p.m. Kaufmann Theater. Free

Cuban musicians have had an important impact on New York's popular Latin music called salsa, which blends influences from a number of cultures. They have also had a decisive impact in the world of jazz, however, by injecting into it the African drumming, singing and dancing of the slaves who were brought to the Caribbean from Africa.

On Wednesday, June 8, Dr. Isabelle Ley-Marie will lecture on the origins and development of Afro-Cuban music and the effect this music has had on contemporary jazz. Dr. Ley-Marie is an ethnomusicologist who has spent more than ten years researching Latin music.

Cuban drummer Daniel Ponce will perform two concerts with the Aztéca Ensemble, demonstrating Cuban music and its strong African heritage. Ponce creates swinging cross-rhythms on several conga drums spread out before him, using his two hands independently of each other. "I play like four guys," he boasts, "and I've only got two hands."

He comes from the Jesús Maña district of old Havana where he grew up to the sounds of drumming, particularly the sacred bata drums played for African-derived religious ceremonies. He moved to the United States in May of 1980, giving up his position of a government-salaried, professional musician to explore new musical directions.

Sponsored by the Department of Education, both the lecture and the performance are free to all Museum visitors. Seating will be on a first-come, first-served basis, so Members are advised to arrive early to avoid disappointment.

African Diaspora in the Americas

Wednesdays, May 11 and 25
7:00 p.m. Auditorium. Free

A documentary on dancing in Cuba, another exploring the daily life of a Haitian village, and numerous other films will make up two-day festival on the African Diaspora in the Americas. The impact of African thought and culture on the Americas is often underestimated. In fact, the value systems and traditions of Africa have permeated many aspects of the lifestyle of people in the New World.

This annual festival serves as a reminder to emphasize and celebrate this heritage.

Haitian Song, for example, is a lyrical portrait of life in a small village in rural Haiti. By following a man and woman through the cycle of a day, the film presents and explores the rituals that weave together to form their daily life: making rope by hand, fetching water from the river, cooking rice and beans in an outdoor kitchen. In addition, the film follows the whole community through the cycles of a week: the market on Tuesday, the cockfight on Saturday, the dance on Sunday. The film provides an authentic anthropological perspective on this Caribbean country.

The festival, sponsored by the Caribbean Program of the Department of Education, will be on two Wednesdays in May, and free to all Museum visitors. Seating will be on a first-come, first-served basis, so Members are advised to arrive early to avoid disappointment.

Saludo a las Americas

Wednesday, June 1
7:30 p.m. Auditorium. Free

Each year one of the most significant group events within the Hispanic community of New York is the Saludo a las Americas. This traditional festival, held in conjunction with the Hispanic American Parade, is a vivid expression of the beauty, spirit and folklore of Hispanic countries.

Combining the folk dances and the music from countries in Latin and South America, as well as Spain and the Caribbean, the festival is a celebration of the common heritage of the different groups.

The presentation, sponsored by the Caribbean Program of the Department of Education, will be free to all Museum visitors. Seating will be on a first-come, first-served basis, so Members are advised to arrive early to avoid disappointment.
Up the Hudson at Sunset
Sunday, June 12, 5:00 to 8:00 p.m.
$15.00 for Members, $18.00 for non-members

This three-hour boat trip will take you up the Hudson River at twilight to survey the northern hemisphere's most southerly fjord. Bring your own bag supper and learn about the origins of the Palisades and other bits of geologic information, as well as the natural history of the region. Sidney S. Horenstein of the Museum's Department of Invertebrates will provide a running commentary. To order tickets use the coupon below.

Join Sidney Horenstein on a sunset journey up the Hudson River to learn about the geology and natural history of the local areas.

Whale Watching for Young People
Saturday, June 11, 6:00 a.m. to 6:00 p.m. $65.00
For students 14 and older, and their parents

Have you ever seen a live whale? This field trip to Montauk Point will take you out to observe whales in New York's coastal waters. The day includes a five-hour boat trip with researchers from the Okeanos Research Foundation, a private organization studying whales, dolphins and porpoises. Their research covers the animals' behavior and population distribution, and they are responsible for collecting photographic records of individual whales. Natural science instructors Sydney Buffum and Darrel Schoeling of the Museum's Department of Education will lead the study tour. To order tickets use the coupon below.

A Sitar Concert with Roop Verma
Wednesday, June 15, 7:30 p.m. Auditorium
$6.00 for Members, $8.00 for non-members

Born in Ambala, India, Roop Verma grew up with music all around him. He is a performer, composer, teacher and musicologist, and is currently Director of the School of Music at the World Yoga University in New York. Apart from teaching at universities in the United States, Canada and India, Mr. Verma has toured extensively, performing throughout North America, Europe and India. He has been widely acclaimed by masters, gurus, critics and the public as an outstanding sitarist in the lineage of his teachers, masters Ali Akbar Khan and Ravi Shankar. To order tickets use the coupon below.

Grupo Aymara
Wednesday, June 8, 7:30 p.m. Auditorium
$6.00 for Members, $8.00 for non-members

Traditional music of the Bolivian highlands is enjoying a renewed interest in South Central America, and is finding new audiences around the world. The members of Grupo Aymara have immersed themselves in the great variety of music and instruments played by the descendants of the Uru, Colla, and Aymara people of the Bolivian highlands. Their recordings and performances of this music, as well as their original compositions, have had a significant impact on the growing appreciation of native cultural expression in the Andes. Grupo Aymara has toured Latin America and Europe, and is this second major tour of North America. To order tickets use the coupon below.

Grupo Aymara plays the traditional music of the Bolivian highlands, drawing from the great variety of instruments and cultural traditions.

Summer Events Coupon (See articles for prices)
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<th>Event</th>
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Total amount enclosed: $ — (Only Participating Donor and Contributing Members may take the discounted Member's Price.)

Name:
Address:
City: State: Zip:
Daytime Phone:
Membership category:
I enclose a check payable to the American Museum of Natural History, and a self-addressed, stamped envelope. Mail to Summer Events, Department of Education, American Museum of Natural History, Central Park West at 79th Street, New York, NY, 10024

Permission slip signed by a parent required for those under 18
The most obvious use of textiles is as articles of clothing. One or more lengths of cloth may be draped around the body or tailored to make gowns, tunics, trousers and so on. Modernly, whatever that may mean to a particular person, and protection against the elements are not, however, the only purposes of clothing. Particular colours, decorative embellishments or shapes of garment may have prestige value so that the wearer of such things is immediately marked out as having great wealth or status. Alternatively, an otherwise relatively poor man may possess one costly gown which he will wear only at important occasions.

Particular colours, kinds of decoration or shapes of garment may also have significance in a political or ritual context. The tribal affiliation of a Moroccan Berber woman, for example, can be read in the pattern of stripes of her cloak. In Benin, Nigeria, chiefs wear red cloth as part of their ceremonial court dress, and red is regarded as threatening. By the wearing of such cloth a chief protects himself, and his land, from evil that is to say from witchcraft and from the magical forces employed by his enemies. In addition, however, some chiefs wear red cloth which is scalloped to produce a type of skirt known as 'pangolin skin.' The scales of the pangolin are widely used also as a protective charm against evil, and the pangolin is regarded as the animal the king selects (a metaphor of kingship) cannot kill. Wearing this costume can, in addition to giving protection from evil, be interpreted as a statement of the potential opposition between the king and his chiefs, the resolution of which is so important a part of the traditional political process in Benin.

The basic colour spectrum of Africa, red, black and white, is of course, rarely without some level of meaning although the precise nature of this meaning will vary from one people to another. Among the Igbira, for example, who are also Nigbuy, red is a colour associated not with danger and war, but with success and achievement (these concepts overlap but do not coincide). In Madagascar, the term 'red', men, is applied to burial cloths which nowadays need not even incorporate the colour red; the term is retained simply to underline their particular ritual importance.

Textiles are not only used to clothe the living, but also the dead (as in the previous Malagasy example). In addition they provide clothing for the manifestations of the world of the dead, or of some other mode of existence, in masquerade form. Here too the colour is likely to be of significance and certain kinds of textile may be produced specifically for such purposes. Finally, textiles may be used to dress neither person, corpse nor spirit, but a house, to mark an event of some significance, or, similarly, a shrine.

In the absence of woven cloth, people may use barkcloth or skins. In a few places almost the only form of bodily attire is paint. Frequently textiles are worn in combination with non-textile fabrics, skins or paint. The simplest form of West African man's dress, for example, is a triangular leather apron, worn around the waist and sometimes tucked between the legs, together with a length of cloth thrown over one shoulder. Although the exhibition is about textiles rather than about costume, barkcloth, skins and body decoration are analogous to textiles in some areas, and combined with them in others, so they cannot be left altogether out of any consideration of the subject. Textiles also have an obvious economic value: cloth is a marketable commodity and has been the subject of extensive trade within and beyond the continent of Africa. In some places one range of cloths is woven for local consumption and another, quite different, for trade with other peoples. In the nineteenth century, cloths woven in Benin were purchased by Europeans for trade in the Gold Coast. At a later period, Yoruba cloths were purchased for trade in Brazil. Cloth has also been worn specifically for use as currency, as in Cairo, and in Sierra Leone at one time cloths of a particular size could be used for paying court fines.

In some areas, most of West Africa, Ethiopia, East Africa and Zaire, for example, all weaving is done by men. Elsewhere, Berber North Africa and Madagascar, for example, all the weaving is done by women. In other areas, such as Nigeria, Arab North Africa and the Sudan, both men and women weave. If a man weaves he may or may not be a full-time specialist; if a woman weaves it is because that culture weaving is among the various skills expected of her. However, a type of loom used by women in one part of the continent will be used by men in another. One of the few things that can be said is that in those few cultures where both men and women weave they each use a different kind of loom.

Among the Yoruba peoples of Nigeria, the cloth manufactured by women are for immediate local consumption, by both men and women, and generally have little or no prestige value. Weaving is not the full-time specialty of any woman but is numbered among the range of domestic skills proper to them. Some men also weave but they use different looms. Moreover, men's weaving is concentrated in a few centres and the weavers are, in principle, full-time specialists. The traditional economic structure of Yorubaland was sufficiently complex and diverse to permit a wide range of craft specialties. The cloth woven by Yoruba men now has high prestige value as it presumably also had in the past and is worn as such by both men and women. Yoruba men's weaving thus survives, but in many parts of Yorubaland women's weaving has gradually and now almost completely disappeared with the advent of imported and factory-produced cloth.
The Story of Textiles

Wednesday, June 22, 7:30 p.m.
Auditorium, Free

The market places in the villages and cities of Africa are lively scenes. In the gatherings of people everywhere, social, political, educational, and religious events are all discussed openly or discreetly through tales, and problems are resolved both humorously and seriously.

The Story of Textiles, featuring Pearl Primus and her Earth Theater, is a dramatic performance combining dance and song. By presenting the daily life of a vendor and her family in the marketplace, the performance offers glimpses into the daily life of the culture. The vendor, Pearl Primus, keeps an eye on the ramshackle activities of her sons and daughters, and on her collection of glorious fabrics which she is selling in a West African marketplace. Along the way, the audience observes interactions within the family, and between the family and other members of the market. Subjects range from relationships between people to the importance of cloth — its size, color, design and texture.

Pearl Primus’ Earth Theater is a dynamic performing company of dancers, musicians and singers, presenting African and American dance and music groups from Africa, the Caribbean and the Americas. My career has been a quest,” says Dr. Primus, “to seek out the roots. The journey has taken me deep into the cultures of many people in many countries of the world.

Dance is my medicine. It is the scream of rage for the terrible frustration common to all human beings who, because of race, creed or color, are invisible. Dance is the list of all things I want to shed light on myself. I am able to dance out my anger and my fear.”

The performance, sponsored by the American Program of the Museum of Education, will be free to all museum visitors. The performance will also be on a first-come, first-served basis, so members are advised to arrive early to avoid disappointment. For more information call (212) 873-1300, ext. 514.

Special Members’ Opening
For African Textiles

Tuesday, June 14, 5:30, 6:30, or 7:30 p.m.
Free and open only to Members and their guests

The Exhibition: African Textiles is the first major exhibition devoted to textiles of the entire African continent. The exhibition contains striking examples of African craftsmanship and also illustrates the technological processes used to create the fabrics African Textiles marks the first time that the British Museum has ever lent an entire major exhibition from its collections to any institution abroad. The exhibition will open to the public on June 15. (See inside page 1 for more details.)

Entertainment: Kindai Demulu and the Koko Society will perform traditional and contemporary African music in the hall of African Textiles throughout the evening. The Koko society is an ensemble of musicians who play a wide variety of African instruments including the mbira (finger piano), the gourd (foot drum) and the ak (Ghananian flute).

Refreshments: There will be a cash bar in the Hall of African Textiles serving wine, beer and sodas.

Members’ Opening for African Textiles Tues., June 14
Please indicate a first and second choice of times:
5:30 p.m. 6:30 p.m. 7:30 p.m.
Number of people:
Name:
Address:
City:
State:
Zip:
Daytime Phone:
Membership category:
Please mail with a self-addressed, stamped envelope to:
American Textile Reception, Membership Office, American Museum of Natural History, Central Park West at 79th Street, New York, N.Y. 10024.

The Art of African Adornment

Tuesday, June 21, 7:30 p.m.
Metropolitan Museum of Art

Patterns, designs and symbols found in African textiles can also be found in other styles of adornment. Jewelry, sculpture, and even weaving often complement a person’s clothing, reflecting different levels of wealth, in the same way colors and patterns do in cloth. So too do scarification and tattooing.

To supplement the exhibition African Textiles (see article this week) Rosalind Jefferies will give a slide-illustrated lecture at the Metropolitan Museum of Art on the same subject. She will draw from exhibits in the American Museum of Natural History’s Hall of Man in Africa and in the Metropolitan Museum’s new Rockefeller Wing of Primitive Art. Included will be woven Zulu love charms, Egyptian cloth for dressing the dead, wooden objects carved with the patterns of Kuba Art, and Xhosa sculpture.

Rosalind Jefferies is an art historian and a consultant to both Metropolitan Museum of Art and the American Museum of Natural History. The exhibition will be held at the Metropolitan Museum of Art, and will be free to all members. The Metropolitan museum requires a donation for entrance to the museum. For more information call (212) 873-1300, ext. 514.

Flash of Spirit: Two Lectures by Robert F. Thompson

Mondays, June 6 and 13, 7:00 p.m. Auditorium
$12.00 for Members, $15.00 for non-members

Dr. Robert Farris Thompson, Professor of Art History at Yale University, will give two lectures on the contributions of the African American cultures. On Monday, June 6, he will focus on Yoruba Atlantic Art and Architecture, and on Monday, June 13, Kongo Atlantic Art. Within these subjects he will explore the rich artistic traditions that include wood carving, jewelry and textiles.

Throughout the Americas there are groups of transplanted West Africans and their descendants living with shells or sometimes planting pipe, shells being symbolic of a time and some of pipes or to other worlds. The Yoruba word for pipe in fact is a pun on the word for a bridge across.

More than one third of the Blacks in North America have a heritage in West Africa. As with many transplanted cultures — the Jews or the Chinese, for example — the great West African cultures have maintained a strong sense of unity in the New World.

Because of a continuous influx over centuries of West African art, there was a constant reinforcement of artistic motifs and cultural values, helping them to retain their vibrancy and meaning.

Dr. Thompson’s most recent book is to be published this fall — In Flash of Spirit: The African Art Connections in the New World. The lectures precede the opening of African Textiles, a major exhibition from the collections of the British Museum (see article page 1). Tickets for the series of two lectures may be ordered with the attached coupon.

Please mail with a self-addressed, stamped envelope to Thompson Lectures, Department of Education, American Museum of Natural History, Central Park West at 79th Street, New York, NY 10024.
Lost in the Great Unknown

Alone, alone, all alone in a lonely, wide sea—
—Rhythm of the Ancient Mariner

Imagine the year 1925 and the first expedition to fly across the vast and desolate ice pack of the North Pole. Aviation was in its infancy and the domain of reckless heroes—men who had lived for years before a postal pilot named Lindbergh made his famous trans-Atlantic crossing. Instead of two explorers flying on a simple plane to the North Pole, plant a flag and fly out. Imagine them marooned in the shifting ice, four hundred miles from the nearest land mass, with two disabled seaplanes, radio, and only the best supply of rations and equipment.

For years Lincoln Ellsworth had dreamed of exploring the Arctic. He was an accomplished explorer and had recently co-led a geologic expedition in Peru. But his ambition was to fly over the North Pole and explore the great unknown basin between there and Alaska.

Roald Amundsen shared Ellsworth’s ambition. He was an experienced Arctic and Antarctic explorer, and he had been the first to reach the South Pole in 1911. He had made two unsuccessful attempts to fly to the North Pole in 1922 and 1923, hoping to discover whether the polar basin was another continent or an ice-covered sea.

In October of 1924, Amundsen and Ellsworth joined forces and began to prepare for a joint expedition. Because of the sponsorship of the Aero Club of Norway, the expedition flew the Norwegian flag. In April of 1925, the team gathered in Spitsbergen, and after a delay caused by heavy smoke from Norwegian Petroleum, the expedition finally set sail for the North Pole. Here they assembled their planes and waited for favorable weather. They had purchased two German-built seaplanes and a former flight, Dragon-Wall open-cockpit seaplanes. Each carried a crew of three: a pilot, a mechanic, and a navigator/observer (Ellsworth and Amundsen). Ellsworth wrote in his diary:

May 21st is the day we have been waiting for, when, with our two Dragon-Wall flying boats, we are ready to take off from the ice at King’s Bay to start into the Unknown. We are carrying seventy-eight hundred pounds above the maximum lift. We are compelled to leave behind our radio equipment, which would make uskapely unflattering. Our provisions are sufficient to last one month.

The two planes (N-24 and N-25) took off at 5:10 p.m. May 21, 1925. The plan was to fly to the pole, and land there to plant a flag and take soundings under the ice. They would spend the night on an ice floe and return to Spitsbergen the following day.

After a few hours, rough calculations showed they were close to the Pole. A heavy wind, however, had driven them westward. Their plan was half ruined and began to describe the narrowest crevice in the frozen sea that would be large enough for a landing. Ellsworth wrote:

(Lie the crack or "fend") was an awful looking hole. We circled for about 10 minutes, looking for enough open water to land in. (The water) was choked up with a chaotic mass of floating ice floes, and it looked as if someone had started to drain the ice pack. Ice blocks standing on edge or piled high on top of one another, hummocks and pressure edges—the walls of that gnarled opening. We were like trying to land in the Grand Canyon.

Ellsworth watched Amundsen’s plane circle down, then saw the rear motor backfire and stop as N-25 disappeared among the ice hummocks.

Ellsworth’s plane put down among the ice floes. He had no idea where Amundsen’s plane was. When he took off, he found they were 120 nautical miles from the North Pole. A few hours later, with the aid of binoculars, he spotted N-25 about three miles away. The two planes were joined over the rugged terrain, the crew pitched a tent on an ice floe and spent their first night in the Arctic.

Amundsen and his plane had come down in a snow wind of the lead and stopped nose up against an ice berg. The three men worked to turn the plane around before a frozen plane hit the ice and the men, knowing they might be frozen to death, set about warm ing up the plane. They decided to move it to the adjacent ice berg. Amundsen writes:

When we left we had 500 Idols too much on board and had therefore to deny ourselves many things to carry with us as a number of things, which we might need, was out of question. We had only calculated with landing on, and rising from suitable ice. No one had dreamed of the present situation. We looked at our available tools, three slip knives, one big knife, one ax, one ice-anchor which in time of need one had to use as a pick. It was impossible what people can do when they are driven to it.

On May 23 Amundsen finally sighted Ellsworth’s plane. They could communicate with flags, but were still unable to reach each other. Both crews worked feverishly to get their planes up onto an ice line and protect them from the shifting ice. Their concern was not unfounded. By the 26th of May—after just days of flying in the Arctic sea—the ice had shifted so much that the two planes were only a half mile apart. The crew of N-24 signalled that they would soon attempt to reach N-25. With each man carrying eighty pounds, they started across a freshly frozen lead. Ellsworth writes:

Suddenly I heard Dietrichson (the pilot) yelling behind me, and before I knew what it was all about, Ondal (the mechanic) ahead of me cried out also and disappeared as though the ice beneath him had suddenly opened and swallowed him. There had happened to be some old ice beside me and that was what saved me. Lying down on my stomach, partly on this ledge of old ice, and partly out on the new ice, I reached the skis out and pulled Dietrichson over to where I was. He called me by name and promptly pulled me out... Then I turned my attention to Ondal. His pale face showed above the water. The only thing that kept him from being drowned was the fact that he kept digging his fingers into the ice. I reached him just in time, pulled him off and went to Ondal. I pushed Dietrichson could crawl over to me... I took all the remaining strength of the two of us to drag Ondal up and out of the water.

Amundsen could not see what was happening, but he heard the cries of the two men. He and his pilot took their canvas boat and met the N-24 crew, amazed that all three were still alive. Ondal and Dietrichson were soaked to the skin, but otherwise unhurt. All six men now worked to free N-25. They lived on daily rations of hot chocolate, a soup made with dried beef and vegetables, oatmeal biscuits and milked milk balls. They crowded into the tiny plane to sleep at night, which sent their bodies into a warm, sleep by means of a small cooking stove. On May 28 they took two soundings. The echo from the sea bottom gave them a depth of 12,375 feet. Unfortunately, this contradicted the theory that there was no large land mass in the northern part of the Arctic Ocean.

Amundsen’s plan now was to try and free one plane and return to Spitsbergen, abandoning any thought of reaching the Pole. He set June 15 as the date for a definitive decision on whether to risk the treacherous walk to Greenland (400 miles away), or to stay with the plane and hope the coming summer would open enough water to allow them to take off. Between the two weeks there were many harrowing moments, all with the constant danger that N-25 could be damaged. Ice floes buckled and crawled on top of another, pressure ridges surged up. The men found an area nearby on the ice pack that, with some levelling, might be large enough to form a runway. For days they hacked away at the snow with their limited tools, trying to clear a hard track. They tramped endlessly back and forth, packing it down with their feet. Finally, on June 14, the runway was completed. They tried basing to take off, but could not attain sufficient speed. The plane was too heavy and the snow on the track was too soft.

That evening they unloaded everything possible from the plane, keeping only enough fuel for the next flying trip to Spitsbergen. The next day was so cold that they could not start up, and at 10:30 a.m. on June 15, they made another attempt. Amundsen writes:

This was undoubtedly a most anxious moment. Our supplies were almost exhausted, the plane trembled and shook, and panted. It was almost too N-25 understood the situation. It was as though the whole of its energy had been gathered for one last and decisive spurt from the plane’s southern edge. Now—no, it was too late. The plane did not move. Too much ice. No more speed! Yes indeed! The scraping noise stopped, only the rumbling of the motor could be heard. At last we were at rest.

Eight hours later they sighted land and brought the plane down in open water. They had less than thirty minutes fuel supply left. A passing cutter towed them to King’s Bay. Ellsworth writes:

History does not record the feelings of the six men who, after drifting about in the ice for twenty-five days, returned to solid land again, washed, fed, and rested, and perhaps humbled by the experience. We had been taught our incompetence, our insignificance, in the presence of the great elements.

Undaunted by the experience, however, Amundsen and Ellsworth began immediately to plan for another attempt. This time, however, they chose an Italian ship chartered by Umberto Nobile, an Italian aviator, with favorable winds and weather conditions, the blimp—christened Norge in recognition of the Aero Club of Norway’s support again—rose from King’s Bay with sixteen men aboard.

The flight of the Norge went smoothly. The ship carried enough fuel to last the entire crew two months, including a wireless for transmitting messages. At 11:30 a.m. on Wednesday, May 12, the ship passed over the North Pole. It descended to within 300 feet of the ice, and the Norwegian, American and Italian flags were dropped. It was Lincoln Ellsworth’s 46th birthday.

This was Ellsworth and Amundsen’s last adventure together. On January 21, 1927—six months after their ill-fated flight to the Pole—the American Museum of Natural History and the American Scenic and Historic Preservation Society presented medals to both men, commemorating their great endeavor, along with the 1925-26 polar flights, is located in an alcove off the 7th Street Lobby of the Museum, across from the Museum Shop.

—Barbara Sauter

40) Miles from the nearest land, the two planes drifted among the dangerously shifting ice floes while the crew struggled to lift themselves from the frozen polar sea.
Sea Tales: An Evening for Families
Friday, June 3, 5:00 p.m. Leonhardt People Center. Free

"In the Eye of the Whale Swims the Sea" is a performance based on poems by Richard Lewis mediating on the whale and its imagined sense of experience. The poems have been set to music by Alice Eve Cohen, who has used homemade instruments created from miscellaneous found objects. "In the Eye of the Whale Swims the Sea" will be one of several performances in Sea Tales: An Evening of Stories, Poetry and Performances for Families. Also included will be films of the ocean by Rob Lefkowitz and readings of poems on the sea by Richard Lewis.

The evening will begin at 5:00 p.m. in the Leonhardt People Center with a poetry reading, followed by workshops in which the audience will be able to participate. One of the workshops will create a book of poetry using the poems from the reading, another will discuss various pieces of music and short poems on the sea, and the third will explore translating this type of poem into sign language for the deaf.

At 7:15 p.m., following a short dinner break and some films by Rob Lefkowitz, the audience will move to the Hull of Ocean Life for performances of "In the Eye of The Whale Swims the Sea," and "Sea Tale," a narrative tale choreographed in dance and sign language.

The program, sponsored by the Museum's Department of Education and the Touchstone Center, will be free to all Museum visitors. Because of the limited seating, Members are advised to arrive early to avoid disappointment.

Versions of the Traditional
Wednesdays, May 4 and 11, 6:00 p.m. Linder Theater. Free

The music, myths, and poetry of various traditional cultures will be the subject of two evenings of Versions of the Traditional. The evenings will be introduced by Richard Lewis of the Touchstone Center.

Wednesday, May 4: Pulitzer Prize winning poet W.S. Merwin, whose works include A Mask of Janus, The Compass Flower, and Finding the Islands, will read and discuss his translations from indigenous cultures.

Wednesday, May 11: Judith Glucksman, an noted African scholar, will present African praise poems from one of her many books, Leaf and Bone. Joe Gaines, Anika Mbanzlo and John O. Ogundipe will supplement the reading with music, song and narrative.

These evening programs, presented by the Department of Education in cooperation with the Touchstone Center, will be free to all Museum visitors. Seating will be on a first-come first-served basis, so Members are encouraged to arrive early to avoid disappointment.

Dance in Every Land
Wednesday, May 18, 8:00 p.m. Auditorium. Free

Filipino farmers wage a perpetual struggle with the island bird, a long-legged bird that eats baby rice plants in the field. To protect their crops, the farmers make traps from long pieces of bamboo and place them below the surface of the water in the rice fields. When the birds step on them the traps close on their legs. The birds, however, have learned to pull out their legs as soon as they feel the trap start to close.

The famous Tinkling dance of the Philippines reenacts this escape. Two people hold the ends of two long bamboo sticks rhythmically opening and closing the trap, as dancers, representing the birds, dance in and out of them, their ankles in constant jeopardy.

This dance will be one of many presented by the Alliance Dance Company in their performance of Joy in Every Land, a trip through the colorful world of international dance. The company is made up of dancers, singers and musicians from all over the world who preserve the folklore and traditions of their native lands. The Alliance Dance Company has performed many times at the Museum. The program, sponsored by the Department of Education and the Performing Arts Foundation, Inc., will be free to all Museum visitors. Because of the company's great popularity, Members are encouraged to arrive early to avoid disappointment.
Do You Work for a Company That Matches Gifts?

A recent issue of Rotunda reported that almost 30 corporations below have announced gifts to nearly a dozen00 institutions, including the American Museum of Natural History. Is your company on this list?

Allied Corporation
American Express Company
American Telephone & Telegraph Co.
Amstel Corporation
Armco, Inc.
Atlantic Richfield Foundation
Bankers Trust Company
Bostik Foods
Budweiser
Bunche Corporation
Celanese Corporation
The Chase Manhattan Bank, N.A.
Chemical Bank
Chase, N.A.
Coca-Cola Company
Continental Bank Foundation
The Continental Group
The Corning Glass Works Foundation
Digital Equipment Corporation
The Equitable Life Assurance Society
 Exxon Corporation
Freepost—McMullen
Gleno Paper Company
Great Northern Nekoos
Gulf Oil Foundation
Gulf + Western Foundation
Houston Natural Gas Corporation
International Business Machines
Johnson & Higgins
Johnson & Johnson
Kimberly-Clark Foundation
Lever Brothers Company
MetLife Foundation
Morgan Guaranty Trust Company
NCR Corporation
Pfizer Foundation, Inc.
Phillips Dodge Foundation
Philip Morris, Inc.
Quaker Oats Company
Reedem Digest
Rockefeller Brothers Fund
Rockefeller Center Inc.
Santa Fe Industries Foundation
Sperry & Hutchinson Company
Squibb Corporation
Time Inc.
Timex
Unilever United States, Inc.
Union Pacific
United Parcel Service
United Technologies
Westinghouse Electric Corporation
Xerox Corporation

These Matching Gift programs are continuing evidence of an interest—shared by corporations and their employees— in preserving the Museum both as an outstanding center of scientific research and as the largest classroom in the world.

We hope the list of "matching" companies continues to grow (there were only a handful ten years ago). More importantly, we hope our contributors are taking advantage of existing Matching Gift programs to multiply their gifts to the Museum.

—By the Board

Museum Notes

Special Exhibitions

Exploring the Deep Frontier (Through May 15) in the Roosevelt Rotunda, second floor. A collection of photographs and equipment showing people's progress in overcoming the obstacles of deep ocean exploration. Displays range from primitive diving bells to space-age diving suits and submarines. There are two companion exhibits of Deep Ocean Photography and the New Frontier of Life. The former consists of photographs of the sea floor which reveal evidence of new forms of life, extensive deposits of valuable minerals, and evidence of bottom currents. The latter is a display of animal communities around deep ocean vents that do not depend on the energy of the sun.

A Flowering of Science: Plants from Captain Cook's First Voyage (1768–1771). Through July 8 in the Naturemax Gallery. Selections of the pictorial record of the flora collected by botanists on this first voyage around the world.

African Textiles. June 15 through December 4 in Gallery 5. The first comprehensive view of the uses and production of African fabrics to be displayed in the United States. Antiques from the British Museum represent the rich diversity of textile wares, such as armor for horses, wrapping for the dead, masks, puppets and clothing.

Planetarium Events

Is Anyone Out There? The Search for Life in Space. March 3 through September 12. (See article page 3.)

Sky show times:

Weekdays: 1:30 and 3:30 p.m.
Saturday: 11 a.m., and hourly from 1:00 to 5:00 p.m.
Sunday: hourly 1:00 to 5:00 p.m.
Admission for Participating, Donor and Elected Members is $2.25 for adults, $1.25 for children. For non-members prices call 873-8828.

Programs and Tours

Museum Highlights Tours. For the new Museum visitor as well as the veteran Museum goer, the Museum Highlights Tours offer fascinating glimpses into the history and exhibits of the Museum's most popular halls. The tours leave regularly from the second floor Information Desk. If you wish to join a free tour, please ask at the information desks for specific tour times.

Discovery Tours. The Museum offers exciting and unusual tours of exotic lands in company with Museum scientists, anthropologists, archeologists, historians, and naturalists. For more information about topics and itineraries, write to Discovery Tours at the Museum or call 873-1440.

Natural Science Center. The Center introduces young people to the varied wildlife, plants and animals of New York City. Some exhibits include live animals. The Center is open Tuesday through Friday, 2:00 to 4:30 p.m., and 1:00 to 4:00 p.m. on Saturday and Sunday. It is closed on Mondays and holidays. Summer hours (July and August) will be Tuesday through Saturday, 10:30 a.m. to 12:30 p.m. and 1:30 p.m. to 4:30 p.m. The Center is closed Sundays and Mondays for this period, and July 4.

People Center. Ethnic programs featuring dance, music, films, lectures and workshops are presented on weekends from 1:00 to 4:30 p.m.

Discovery Room. Children are delighted to touch and handle natural history specimens in our imaginative "discovery boxes." Starting at 11:45 a.m., free tickets are distributed on a first-come, first-served basis at the first floor Information Desk. The room is open only on weekends from 12:00 to 4:30 p.m.

Naturemax Information

The Naturemax Theater is equipped with a movie screen four stories tall and sixty-feet wide, as well as an extraordinary sound system and a projector for showing IMAX films, made ten times larger than ordinary movies. The theater is located off the 77th Street Lobby near the Great Canoe. Schedules and films may vary. For the Naturemax Recording for current information before visiting the theater (212) 496-0900. Currently the films are:

To Fly! A history of American aviation complete with airmail stamps from the flight of the Wright Brothers to the first test flights of the Spirit of St. Louis, 1903. (212) 496-0900.

Living Placids. An overview of the evolution of life from a drop of water to the technological achievements that brough about New York City and space exploration.

Man Belongs to the Earth, an ecological study of the human impact on the fragile world we inhabit.

Museum Information

Museum Hours: Monday, Tuesday, Thursday, Saturday, Sunday, 10:00 a.m. to 5:45 p.m.
Wednesday, Friday, and Saturday, 10:00 a.m. to 9:00 p.m.
Cafeteria Hours: Daily from 11:00 a.m. to 4:45 p.m.
Cafeteria Hours: Daily from 11:00 a.m. to 9:00 p.m.
Museum Parking Lot
Located on 81st Street. Open Monday through Thursday, 9:30 a.m. to 9:30 p.m. Friday through Sunday, 9:30 a.m. to 12:30 p.m. Rates are $5.00 for cars, $6.50 for buses. Parking is limited.

Lions' Lair. Relax and enjoy refreshments with the animals in one of the halls Wednesdays: 3:30-7:00 p.m.
Thursday and Friday, 11:00 a.m. to 5:00 p.m.
Terrace Cafe. Open daily, except Saturdays.

Entrance on Central Park West.

Southwest Research Station. Members have visiting privileges at this outpost. If you are planning a visit of less than one week, write ahead for details. Southwest Research Station, Portal, Arizona, 85632, or call (602) 568-2396. For visits of more than one week, applications should be made to the Deputy Director of Research, American Museum of Natural History, Central Park West at 79th Street, New York, N.Y. 10024, or call (212) 873-1300.

Cost Checking. For your convenience the cost check room is located in the basement near the cafeteria, and on the second floor at the main entrance. There is a 40c charge per item.
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<td>5 1:00–4:30 p.m. Native American Month. Leonhardt People Center. Free</td>
<td>6 7:00 p.m. Yoruba Atlantic Art and Architecture with Robert Farris Thompson Auditorium. Tickets required. (See article page 7.)</td>
<td>7 7:00 p.m. Analysis of Afro-Cuban Jazz. Kaufmann Theater. Free. (See article page 4.)</td>
<td>8 7:00 p.m. Grupo Ayamara Auditorium. Tickets required. (See article page 7.)</td>
<td>9 7:30 p.m. N.Y. Mineral Club. Leonhardt People Center. Free.</td>
<td>10 2:00 p.m. River Trip. A guided tour of the Grand Canyon. Free and open only to Members and their guests. Kaufmann Theater. For more information call (212) 573-1327.</td>
<td>11 6:00 a.m. – 6:00 p.m. Native American Month. Leonhardt People Center. Free.</td>
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<td>12 1:00–4:30 p.m. Native American Month. Leonhardt People Center. Free.</td>
<td>13 7:00 p.m. Congo Atlantic Art with Robert Farris Thompson Auditorium. Tickets required. (See article page 7.)</td>
<td>14 1:15 p.m. Wonderfull Sky. Special Sky Show for Preschoolers. Kaufmann Theater. (See article page 3.)</td>
<td>15 7:30 p.m. Roop Verma Star Concert. Kaufmann. Auditorium. Tickets required. (See article page 7.)</td>
<td>16 First Quarter (half moon)</td>
<td>17 1:00–4:30 p.m. Native American Month. Leonhardt People Center. Free.</td>
<td>18 1:00–4:30 p.m. Native American Month. Leonhardt People Center. Free.</td>
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<td>19 1:00–4:30 p.m. Native American Month. Leonhardt People Center. Free.</td>
<td>20 6:00 p.m. Summer Solstice (Summer begins at 6:09 p.m.)</td>
<td>21 7:30 p.m. The Story of Textiles with the Pearl Primus Earth Theater Auditorium. Free. (See article page 7.)</td>
<td>22 7:30 p.m. Lespiony &amp; Gem Society. Leonhardt People Center. Free.</td>
<td>23 Discovery Tour leaves for Alaska. For information call (212) 573-1440</td>
<td>24 1:00–4:30 p.m. Native American Month. Leonhardt People Center. Free.</td>
<td>25 1:00–4:30 p.m. Native American Month. Leonhardt People Center. Free.</td>
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<td>26 1:00–4:30 p.m. Native American Month. Leonhardt People Center. Free.</td>
<td>27 8:00 p.m. Nat Geo Soc. Nat Speleological Society. Room 129</td>
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**June 1983**

American Museum of Natural History
An Evening in Asia
Tuesday, August 16. Open only to Members and their guests
$2.00 for adults, $1.00 for children. 6:00 to 9:00 p.m.

Would you like to go to Asia this summer? Members and their guests of all ages are invited to An Evening in Asia as we open up several of our halls after hours and bring down special pieces from the collections. Museum scientists will be on hand to discuss the collections and their research and to answer any questions you might have.

Learn how and why the Chinese bound the feet of little girls, see a demonstration of Asian shadow figures, play the Korean stick game yu(-), and take a tour of Asian reptiles with the Museum Highlights Tour leaders. There will be representatives of the wonderful fish, insects, reptiles, and amphibians that inspired so much awe and mystery in the early explorers. Come to feel the fur of a Siberian tiger and handle the horn of a rhinoceros. Learn about the robber crab that climbs trees to eat coconuts and about the giant clam that legend says devoured divers.

You can have your name written in Chinese, practice the art of Asian origami, draw masks from Tibet, or win prizes on our spectacular treasure hunt through Asia. You can even decorate an elephant for a Hindu ceremony. In addition there will be a film program in the Auditorium that will be repeated throughout the evening. This will include archival footage from the great Museum expeditions to Asia.

Come laugh and learn, wonder and wander, as we open the Museum after hours for a Members' Evening in Asia.

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BBC Film Festival
An outstanding selection of natural history films from the British Broadcasting Corporation offers Members the chance to travel the world to explore the wonders of nature.

Page 3

Celebration of Birds
Louis Agassiz Fuertes is considered one of the greatest natural history artists of all time. Even his field sketches from expeditions show his distinctive ability to bring animals — particularly birds — to life with his brushes. Many of his paintings and field sketches make up the exhibit A Celebration of Birds: Louis Agassiz Fuertes and His Art.

Pages 4 and 5

American Museum Restaurant
We are happy to announce the opening of our new restaurant, providing a bright, comfortable place for you to bring your family and friends and enjoy a sit-down meal.

Page 6

Exploring for Young People
Explore the myriad life forms in a drop of water, compare human skulls with those of our primate relatives, or learn about the natural world through special workshops we are offering this summer to Members ages 9-14.

Page 6
Margaret Mead Film Festival
Monday through Thursday, September 12 through 15

Last year more than 8,000 people attended the Margaret Mead Film Festival, an annual event screening anthropological films from all reaches of the world. The festival attempts both to encourage documentation of the world's fragile and vanishing cultures through film and to bring these films into the public view. These two principles were pioneered by the late anthropologist Dr. Margaret Mead.

This year's Margaret Mead Film Festival will be held on four consecutive evenings, Monday through Thursday, September 12 through 15. Four separate screening areas will show over forty films, more than half of which are New York premieres. All films will be introduced and discussed by leading anthropologists and filmmakers, many of the filmmakers themselves. The festival is free to Members and Museum visitors, but seating is limited and on a first-come, first-served basis.

A complete program for the festival will be included as a special supplement to the September issue of ROTUNDA. Here is a brief sampling of some of the films:

First Contact, Bob Connolly and Robin Andrews. In the 1930s, when gold was discovered in the interior of New Guinea, an entire population was found inhabiting the cool inland valleys. Cut off from the rest of New Guinea by impenetrable mountains, these people thought of their world as the only one that existed. The film documents this extraordinary meeting of two cultures, the isolated people's awe and wonder at the beginning and the gradual realization that these strangers were human.

El Niño. Nicholas Echevarria. El Niño died in 1938, President of the Mexican Republic and a former president of Mexico. El Niño developed several different diseases. He lost his memory and became inarticulate but he was able to remove his clothes, feed himself, and talk to others.

The Navigators, Sanford Low. More and more archaeological evidence indicates that the Polynesians were extraordinary seafarers, crossing the vast reaches of the Pacific Ocean 3,000 years before Columbus sailed the Atlantic. These navigators, advertising for a single island no more than a mile wide across great expanses of open water, understood not only such natural indicators as stars and ocean currents but also mystical sea signals. The navigators' remarkable biographical information is available to everyone in El Niño, focuses on these sectors and explores the phenomenon of faith healing.

The Pilgrimages to the Ganges, 1957-1977, Perween Miranda. In 1977 some 10.5 million people took their holy bath in the Ganges River at Prayag in less than twenty hours. Hindus consider it a special blessing to die in the holy city of Varanasi on the Ganges, and the ashes of dead relatives are often brought there to be placed in the holy river. By surveying pilgrimage to the Ganges over twenty years, this film shows how religious traditions are still alive in India today, despite extensive modernization. We see what changes the traditions have undergone, and how the most sophisticated modern techniques have been used in organizing the largest congregation of people in the world.

Other films to the Festival explore the immigrant experience in the United States, Australian aborigines, North American Indians, South America, and Greece. A complete program will be included in the largest celebration of the September issue of Rotunda. For more information call (212) 873-1070.

Members' Memo
Come See Us This Summer

New Naturemax Benefit
I am pleased to announce that beginning this July, Members will receive a 50 percent discount at all Naturemax films. To receive the discount, present your Membership card at the 37th Street Membership Desk, right next to the Naturemax ticketing booth.

Participating, Donor, and Contributing members are entitled to six discounted admissions as a welcome to attend. Associate Members are entitled to one. Of course you can still use your complimentary Naturemax tickets, which will be good until the end of the year. If you have not received them, you can pick them up at the 37th Street Membership Desk before the film. Next year we will offer the discount alone.

Naturemax has certainly added an exciting new dimension to the Museum experience. Although a million people have left breathless from the largest indoor film phenomena in the area. We are now previewing some spectacular new films, and we hope to introduce a new one to you later this year. We also hope to organize Members' preview and 15 Mem-

Summer at the Museum
A number of people talk to us about whether anything happens at the Museum during the summer. We do not believe that everyone leaves town from June to September, so we do offer a number of activities. This summer is a particularly busy one.

African Textiles is our major exhibition now, and weekend programs throughout the month of July will explore various aspects of African culture. We are also opening three temporary exhibits: one of paintings and field sketches by the renowned artist-naturalist Louis Agassiz Fuertes; another of the winning photographs from the National Geographic photo competition; and South of Winter, a photographic essay about the wildlife on the coast of the southern United States.

As for programs, we are offering two days of magnificent natural history films made by the BBC, an Evening in Asia; and a series of exploration days for young people. All of these programs and exhibits are described in greater detail in this issue.

The summer is also an ideal time to take advantage of our air-conditioned halls of Asian Peoples, Minerals and Gems, and others. The Naturalex Theater is air-conditioned too. Don't forget to visit our new American Museum Restaurant. Members' comments and requests for a sit-down restaurant were a major reason for its creation. We hope you will take advantage of it and send us your comments.

Have a good summer, and we hope to see you here.

An Evening in Asia. Tuesday, August 15. The program is open only to Members and their guests. Tickets are $2.00 and $1.00 for children.

| Number of children tickets | X $1.00 | $ |
| Number of adult tickets | X $2.00 | $ |
| Total amount enclosed | | $ |

Please indicate a first and second choice if possible. I would prefer to arrive between 6:00 and 6:30 p.m. 7:00 and 7:30 p.m.

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

Please make check payable to the American Museum of Natural History and mail with a self-addressed, stamped envelope to: An Evening in Asia, Membership Office, American Museum of Natural History, Central Park West at 79th Street, New York, N.Y. 10024.
BBC Natural History Films
Tuesday evenings, July 19 and 26, 5:30 p.m. and 7:30 p.m. Auditorium
Free and open only to Members and their guests

For more than twenty-five years, the BBC Natural History Film Unit has been producing some of the world's most outstanding nature films. These visually striking films explore the complex relationships of plants and animals, often bringing to light little-known aspects of the natural world.

Members are invited to join us this summer for a BBC Natural History Film Festival in the Museum's air-conditioned Auditorium. The festival will include four films narrated by David Attenborough from the BBC's highly acclaimed "Wildlife on One" series, which attracts up to fifteen million British viewers each week. The program is free and open only to Members and their guests. Your Membership card is your ticket of admission. Participating, Donor, and Contributing Members are entitled to six free admissions. Associate Members are entitled to one. All others are $2.00 each.

Tuesday, July 19
The Impossible Bird (25 minutes): The haughty-looking ostrich stands nine feet tall and lays eggs the size of a softball. It is incapable of flying, but can run at the astounding speed of forty miles per hour. This film takes a rare and fascinating look at this "impossible" bird's social behavior, from its odd mating habits to the unique way it raises its young.

Tree of Thorns (10 minutes): The umbrella-like "tree of thorns" supports a wealth of African wildlife. This unusual and beautiful film captures the delicate harmony of a woodland community and the natural forces that threaten its survival.

Flower from the Flames (25 minutes): This film provides a remarkable view of the winter-blooming protea, named after Proteus, the Greek god who could change his form. The Cape sugar bird is mysteriously drawn to the protea's spectacular appearance, and as many as eight bee-eaters will fight with each other to enter its blossom. One variety of protea lives in the ground, opening only at night, and it was just recently that scientists discovered which nocturnal animal pollinates it.

Amath of Masai Mara (25 minutes): Each year the dramatic confrontation between migrating wildebeests and the majestic lions of Kenya provides an incomparable spectacle. This film depicts the events that occur during a day at the height of the migration, as they might be seen from a lion's perspective.

Watermillers (25 minutes): Enter the world of pondskaters, swamp spiders, whirlybirds, and other miniature inhabitants found on the surface of ponds and streams. This strikingly photographed film reveals a world where the laws of physics take on new dimensions: where water bends, and surface tension can mean the difference between life and death.

Saunters at Sunset
Members are invited to join Sidney Horenstein this summer for one of his sunset tours of the urban landscape. On each tour, Mr. Horenstein will describe New York's myriad building stones, discuss the geologic forces that shaped the metropolitan area, and point out the plants and animals that inhabit our urban realm. All the tours will begin at 6:00 p.m. and end at locations that offer spectacular views of New York's sunsets. To register please use the adjacent coupon.

Brooklyn Heights: Brooklyn Heights contains a great variety of buildings constructed from the late eighteenth century to the present time. Mr. Horenstein will use the different buildings to illustrate the changes that have taken place in building technology and materials over the last 200 years. The tour will end with views of the New York harbor, and Mr. Horenstein will explain how the harbor, the heights, and Manhattan were all formed.

Gracie Mansion to Grant's Tomb: This tour begins with a look at a geologic fault that cuts across Manhattan, and ends with beautiful views of the Palisades. By the time the tour is completed, Members will have traversed Manhattan at its widest point, inspected terra-cotta apartment buildings and limestone townhouses, and explored the landscaped wilds of Central Park.

Battery Park and Lower Manhattan: This tour will follow the original shoreline of lower Manhattan. Mr. Horenstein will describe the island landscaped 500 years ago and what has been added over the years. The tour will conclude in Battery Park, where Members will inspect 350 million-year-old fossils embedded in the base of one of the park's monuments and explore Castle Clinton, a building that has served as a fort, immigration station, and aquarium.

Sunset Tours. These tours are open only to Participating, Donor, and Contributing Members and their guests. Please sign up for one tour only and indicate a first and second choice (if possible). Your confirmation card will have the starting point for the tours.

Brooklyn Heights, Monday, July 25, at 6:00 p.m.
Gracie Mansion to Grant's Tomb, Wednesday, July 27, at 6:00 p.m.
Lower Manhattan, Thursday, July 28, at 6:00 p.m.

Number of People: __________

I have enclosed my check for $_________ ($5.00 per person)

Name: __________________________
Address: __________________________
City: __________________________ State: ______ Zip: __________
Daytime Phone: __________________________
Membership category: __________________________
Please make check payable to the American Museum of Natural History and mail with a self-addressed, stamped envelope to: Sunset Tours, Membership Office, American Museum of Natural History, Central Park West at 79th Street, New York, N.Y. 10024.
African Textiles
Gallery 3 through December 4

African Textiles is the most comprehensive exhibition on this subject ever assembled. For Africans, textiles are a major art form, an aesthetic expression intimately linked to daily life and to ritual. In the exhibition we see not only how techniques and textiles vary from one region and one ethnic group to another but also how cloth is used as an expression of personality and individuality. There is a Madonna with inscriptions and magic squares hand-drawn all over it (the owner literally wearing his prayers on his back), and a hunter's appliqued shirt covered with leather, shell, and bone talismans. There is a wonderful multicolored patchwork of armor, made for a Sudanese nobleman, and a large appliqued stole made to be worn by a house, signifying that its owner has died. Basically all weaving involves interlacing two sets of threads at right angles. While looms certainly make the process easier, they are not essential. In some cultures, people simply weave on their fingers. In weaving, threads going in one direction are pulled taut (the warp), while the other set of threads (the weft) are interlaced over and under the warp threads. Usually a device called a heddle is used to separate the warp into alternately raised and depressed rows, opening a space through which the weft can be more easily passed. John Mack and John Peterson, the curators of the original African Textiles exhibition (held at the British Museum's Gallery of Mankind), have conducted an extensive analysis of African weaving and have discovered that all African looms, with the exception of the tablet loom used in a few parts of North Africa, can be classified into two types: single-heddle and double-heddle. A single-heddle loom has one heddle device that lifts every other yarn, opening a space through which to pass the weft. But when the weft returns, it must pass over the same threads it just passed under. A wedge of some sort can be run through the warp yarns and leave there, lifting the opposite yarns from the heddle. When the heddle device is released, the threads that were lifted by the heddle fall back past the others. The "overs" then become the "unders." A double-heddle loom, as the name implies, simplifies this process by manipulating both sets of alternate threads. Using foot pedals, the "overs" and "unders" can be reversed with great speed, and both hands are free to move the weft. In West Africa these two types of weaving are associated with men and women, respectively. In Nigeria only women use the single-heddle loom while only men use the double-heddle loom. One explanation for this may be that the double-heddle loom is usually stretched out over a long distance and therefore is always done in a public space outside the home. The woman's single-heddle loom is set up against a wall, usually inside the house. Women are therefore able to weave while carrying on their domestic activities. Women may be professional weavers just like men, but they inevitably have many other domestic chores to attend to simultaneously. In the exhibition, seven African looms are set up. While they all look quite different, all of them fall into one or the other of these types. Except that double-heddle weaving is in narrow strips, one cannot distinguish single from double-heddle cloth by looking at the weaving itself. A wide range of patterns—from simple plain weaves to complex textures and designs—are created on both kinds of loom. This exhibition displays a dazzling variety of weaving patterns and possibilities. One comes away with the impression that there can not possibly be any kind of weaving that has not been thought of in Africa.

— End Schildkraut

A Celebration of Fuertes
Naturemax Gallery
August 4 through October 2

Before the advent of color photography, the major natu- ral history expeditions included a field artist among their personnel. When animals, birds, or plants were collected, colors fade or change as part of the decomp- osition process. To prevent this, they were usually immediately recorded by an artist's sketch, a field artist had to be on his feet, under the sun, or in the snow. What made Louis Agassiz Fuertes such a great field artist was his keen knowledge of birds. Instead of making a sketch of a dead, expressionless bird, Fuertes was able to use his knowledge of birds— their gestures, mannerisms, and "personalities"— to create a representation of the bird as it had lived. A Celebration of the Birds: Louis Agassiz Fuertes and His Art will feature some of Fuertes' exquisite bird paintings, as well as paintings of mam- mals and insects made during expeditions in the sea and the Americas. Also featured will be works by other natural his- tory artists who were influenced or self-influenced by Fuertes, including John James Audubon, Thomas Jefferson Eaton, and Roger Tory Peterson. The exhibit is free.

South of Winter
Birds of the World, July 27 through November 30

South of Winter is a photo- graphic exhibit of this coastal wildlife and its relationship with the industrial era. Many of the photographs, taken by Steven C. Wilson and Karen C. Hayden, show how these two worlds are learning to cohabitate at the Aransas National Wildlife Refuge (where whooping cranes from the Canadian wilderness spend their winters) and Padre Island Seashore. The exhibit, made possible by a grant from Conoco, will be free to all Museum visitors. It will continue on a national tour.
Paying Homage to the Singular Beauty of Birds

The late Dr. Frank M. Chapman, long-time chairman and curator in the Museum's Department of Ornithology, was a great natural history artist Louis Agassiz Fuertes: "If the birds of the world had met to select a human being who could capture the image of the beauty and charm of their forms, their songs, their rhythmic flight, their manners for the heart's delight, they would undoubtedly have chosen Fuertes."

While Fuertes painted many animals over the course of his thirty-year career, his love was depicting the subtle beauty of birds. It was not only his extrapordinary sense of detail and accuracy that brought him his fame but also, as Chapman once said, a remarkable ability to produce facial expressions which could be shown only by living birds."

His careful scrutiny of his subjects, both alive and dead, enabled him to recreate a bird's personality, using merely a study skin and to bring it back to life on the page as no artist had done before.

Born on February 7, 1874, Fuertes developed an early interest in painting birds and was particularly influenced by Audubon's famous folios, The Birds of America. Fuertes described these as "the most potent influence that was ever exerted upon my youthful longings to do justice to the singular beauty of birds."

In 1894, as a sophomore in college, he met Dr. Elliott Coues, a prominent American ornithologist of the day. Coues recognized Fuertes's talent and commissioned him to illustrate a children's book called Citizen Bird.

In 1896 Fuertes attended a meeting of the American Ornithologists' Union, where the drawings and paintings he exhibited launched his career. Members of the AOU, including Dr. Frank Chapman of the American Museum, were impressed enough with the young artist's work that he rapidly acquired friends, advice, and commissions. He began to study with the artist Abbott Thayer, an exacting naturalist. Under his tutelage, Fuertes's style softened, losing the stylization that had come from Audubon's influence.

By the late 1890s he was well established as a natural history illustrator. In 1899 Coues, pleased with the success of Citizen Bird, commissioned Fuertes to illustrate his Key to North American Birds. Also in 1899, Fuertes was invited on his first major expedition, the Harlani Expedition to Alaska. This huge undertaking fascinates all of us. Here Harlani's "summer cruise under doctor's orders," on which he invited the best and the brightest of the scientific world, included such naturalists as John Muir and John Burroughs. The expedition covered more than 4,000 miles of the northwest coastline in two months, discovering more than 500 species. Even many of the known species were new to Fuertes, however, and he greeted the experience with the same ecstacy and wonder that were beginning to characterize his art. He wrote in a letter home:

"The blowing and swooping of the whales, the screaming, way out on the bow, of gulls and loons, and an occasional goose, and, near by, the flicking of the little waves in the pelibes and hams of a big bee, with just a thin ray of the hermit's song way over across the bow in the spray, make the part of the picture that you see with your ears. The other part goes beyond my vocabulary, which has gradually become drowned down in 'Wow and Tab'."

By this time, Frank Chapman had undertaken the creation of the Hall of North American Birds at the American Museum. He was keenly aware of the educational and historic lessons that the dioramas would preserve. Chapman had worked several times professionally with Fuertes, particularly with illustrations for his magazine National Geographic. He knew that the accuracy and lifelike quality of Fuertes's work would greatly enhance the habitats, providing perhaps the only permanent record of the species. To impress others with the value of these accurate reproductions, he wrote:

"Would we not hold as priceless today a habitat group of Passenger Pigeons with a background by Audubon? Each of these birds, a phenomenon unsurpassed in the world of birds and of which no authentic portrayal exists? Should we not ask the Audubon of (our) day to place upon our wall records of birds that will follow the Pigeons just as he himself will follow his great predecessor..."

In 1907 Chapman asked Fuertes to accompany him on a Museum expedition to the Bahamas to study the nesting habits of the flamingo in the wild. Although Chapman contracted measles and had to return to Nassau to recuperate, Fuertes continued to the distant island. There he encountered a great variety of sea-birds. They photographed a huge flamingo nesting colony, but were too late for the actual breeding season. It was from studies he made there, however, that Fuertes created the large flamingo mural now in the Hall of North American Birds.

Suitably impressed with Fuertes's dedication, Chapman asked the young artist if he was willing to accompany him again. Fuertes wrote back, "I was born with the itching foot, and the sight of a map or even a timetable is enough to stir me all up inside."

Through the next decade the two of them logged more than 60,000 miles together on Museum expeditions, collecting specimens and making field notes for the construction of the hall's bird section. Chapman would sit patiently for hours under his umbrella blind amidst hundreds of nesting birds that paid him no heed while he took pictures and made notes on their behavior. Fuertes spent long days collecting and preparing bird specimens, often painting well into the night. Back in New York, his field sketches were worked into background murals by artists at the Museum itself, with Fuertes himself working on some of the final paintings.

Their travels together included trips to Mexico, Saskatchewan and Alberta, Cuzco, Bolivia in southern Florida, the western United States, and two trips to Colombia, the last in 1913. Chapman wrote of Fuertes's total concentration in the field:

"Color, pattern, form, contour, minute details of structure, all are absorbed and assimilated to complexity, until it becomes part of himself, and they can be reproduced at any future time with amazing accuracy."

Fuertes's auditory sense was as fully developed as his visual and memory for detail. An authority on bird songs, he could imitate them readily, often using this talent to attract birds for observation. He wrote a series of papers for Chapman on 'Impressions of the Voices of Tropical Birds,' published in Bird-Lore.

During the war years, Fuertes continued to produce illustrations for Chapman. They occasionally disagreed on a pose or detail, and Fuertes was not reluctant to defend his work when he was sure of it. In 1927 Fuertes received a medal for his work on Audubon's Birds of America. Chapman, however, had backed the project, although there were times when Fuertes wished that he had never undertaken the work at all.

The hawk is all right. I have watched practically all game hawks from the air, and all do as I have shown. I carry the prey at about 50 yards and suddenly strike... This I am sure of as I drove both hawks in flaying and repeatedly observed it. In all cases I have ever seen of a hawk or eagle carrying prey it has always been carried well away from the bird."

Chapman was forced to concede; although there were times when Fuertes resorted to painting to gain clarity or emphasis. Each had great respect for the other's knowledge. Fuertes had made his last and most exciting expedition to Abyssinia (now Ethiopia) with the Field Museum of Natural History in Chicago. Shortly after his return, he and his wife drove to the upstate New York to show them the Abyssianian paintings. Chapman was very excited and considered the work from this trip to be among Fuertes's finest. Driving back to Ithaca that weekend, Fuertes's car was struck by a train at a railroad crossing. The car was destroyed. Louis Fuertes was killed instantly, and his wife was badly injured. The Abyssianian paintings were somehow thrown clear of both the car and the train and escaped serious damage.

Shortly after Fuertes's death, Chapman purchased a selection of his work for the Museum, representing a cross section of subjects and styles and including bird studies as well as finished paintings. The Museum owns 453 of Fuertes's originals, of which are included in the exhibition "A Celebration of Birds: The Life and Art of Louis Agassiz Fuertes" (see article page 4).

— Barbara Sawicz

5
**Weekends in Africa**
*Weekends in July, Leonhardt People Center, Free*

Throughout the month of July, programs celebrating African cultural traditions will be held on weekends in the Leonhardt People Center (note: there will be no programs over the July 4th weekend).

On July 9 and 10, lectures and demonstrations will explore African textile technology and design; these programs supplement the African Textile exhibition currently on display in Gallery 3 (see article page 4). On July 16 and 17, lectures will discuss Sub-Saharan African traditions, focusing on the history of Ghana from precolonial times to the present, and the many uses of the calabash gourd. On July 23 and 24, storytellers and griots (oral historians) will present some of the African oral traditions. On July 30 and 31, storytellers and lecturers will explore the African traditions in America with Berr Rabbit stories, discussions of African-American quilting, and slave lectures on the continuing tradition of commemorating. In addition, films will be shown each weekend that pertain to the specific programs in the Leonhardt People Center.

Two special programs of music and dance will round out the month. On Sunday, July 17, at 1:00 and 3:00 p.m., the Dram and Spirit Society will present "Voice of the Ancestors" in the Kaufmann Theater. On Saturday, July 30, at 1:00 and 3:00 p.m., Kinnat Dinshu will perform a variety of African and Afro-American music in the Kaufmann Theater.

All of the African Month programs, presented by the African-American program of the Department of Education, will be free to all Museum visitors. Seating will be on a first-come, first-served basis, so members are advised to arrive early to avoid disappointment.

These incised bowls made from calabash gourds come from Nigeria. The varied uses of gourds in Africa is the subject of one of many weekend programs on African traditions and customs.

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**A New Museum Restaurant**

For years, Members have expressed their desire for a proper restaurant in the Museum. The cafeteria caters to those in a hurry or who want just a snack, but until now there has been no place where you could bring your family and friends for a sit-down lunch or early dinner.

The Museum has now designed a restaurant that will be competitive with the best in the neighborhood. We are pleased to announce the opening of the American Museum Restaurant.

Nestled into a sunny, interior courtyard, the addition is slightly glass and has healthy plants both inside and out. This, with the natural-colored wood decor, gives the room a bright and cheerful atmosphere. The furniture is comfortable, the layout spacious, the portions large, and the quality good. Prices range from a hamburger or plain omelet for about $5.00 to scallops and steaks of chicken breast with lemon sauce in a pastry shell for about $9.00.

The menu is nicely varied— including cold striped bass with palmier vegetables, brie and country ham on a croissant, tortellini primavera, egg benedict, and a variety of omelets—and prices average about $6.00. A children's menu is available for those ten years old or younger, and offers a choice of entree, potato chips, a hot fudge sundae, and a drink for $3.50.

The best deal on the menu is the ice cream, which the ROTUNDA editorial board has sampled extensively and found to be excellent (particularly the coconut sherbet, which is light and sweet with chunks of real coconut—perfect on a hot day).

The American Museum Restaurant is open every day from 11:30 to 3:00 p.m. Afternoon tea and dinner are served from 3:00 to 5:00 p.m., and dinner from 5:30 to 7:30 on Wednesdays, Fridays, and Saturdays. Members will receive a 10% discount (excluding alcoholic beverages) by presenting their Membership card. Reservations can be made by calling (212) 873-1300, ext. 666.

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**Exploring on a Summer's Day**
*Free and open only to Members*

Members ages 9 through 14 years old are invited to join us this summer for a special series of exploration days.

Each workshop will focus on a different area of the natural world and include tours of the halls, hands-on work with the collections, laboratory investigations, and perhaps a field trip. These workshops will be led by Sidney Bulfum and Darrel Schoeling of the Museum's Department of Education. To register please use the coupon below.

**Sea Creatures:** Spend a morning under the blue whale and learn how fish, mammals, reptiles, and birds have adapted to their aquatic environment. Then dissect a fish.

**Drops of Life:** Explore the myriad life forms in a drop of pond water. Venture out on a collecting trip to Belvedere Lake in Central Park, then return in the afternoon to look at your birds under a microscope.

**Human Origins:** Learn about your roots. Compare human skulls, both past and present, and with those of our primate relatives. Learn how to use early human artifacts.

**Urban Insects:** Discover the wonders of earth's most successful creatures. Collect them in Central Park and investigate them back at the Museum. The program will include simple inquiries into animal behavior.

**Adventures in Flight:** Compare the wings of birds, bats, flying insects, and prehistoric ferns. Then learn the principles of flight by making your own kite.

**Dinosaur Times:** Become a paleontologist for the day. Learn all about the giant reptiles of the past and their present-day descendants. Make a fossil rubbing and create your own fossil.

**Ocean Worlds:** Handle a shark's tooth, touch a narwhal's tusk, learn which marine mammals use a tool, and study predaceous behavior in this workshop in the Hall of Ocean Life.

**World of Mammals:** Take a trip to Africa and across North America and learn about the ways that elephants, cheetahs, beavers, and bears have adapted to their environments. Make a set of animal tracks and play a wide variety of games in the Museum's famous mammal halls.

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**Exploration Days.** These workshops are open only to Participating, Donor, and Contributing Members of the Museum. Please sign up for one workshop and indicate a first and second choice if possible.

**Ages 12 to 14**
- **Sea Creatures:** Mon., Aug. 1, 9:30 a.m. to 12:30 p.m.
- **Life in a Pond:** Tues., Aug. 2, 10:30 a.m. to 4:00 p.m.
- **Urban Insects:** Thurs., Aug. 4, 10:30 a.m. to 4:00 p.m.

**Number of People:**

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<td>Dinosaur Times: Thurs., Aug. 11, 1:00—4:00 p.m.</td>
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<td>World of Mammals: Tues., Aug. 23, 1:00—4:00 p.m.</td>
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<td>Adventures in Flight: Thurs., Aug. 25, 1:00—4:00 p.m.</td>
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**Daytime Phone:**

**Membership category:** Please mail with a self-addressed, stamped envelope to Explorations Days, Membership Office, American Museum of Natural History, Central Park West at 79th Street, New York, NY 10024.
Peruvian Folklore Spectacular
Thursday, July 21, 7:30 p.m. Auditorium. Free

The dance and music of Peru from Incan times to the present will come to the Museum today. Los Takis del Peru (takis means “dancer” in Quechua, the official language of the Incan empire) will present a Peruvian Folklore Spectacular, treating the paintings and modifications of these traditions, including the influences of Europe and Africa over the ages. Among the highlights will be the realistic “Virgenes del Sol,” the warlocks “Polkis,” the “Carnaval de Cuzco,” and "Condor Pasé” (“Flight of the Condor”). Twenty years, Los Takis del Peru have brought the traditional culture and folklore of Peru to the general public. Under the direction of Mrs. Isabel Torres, who has been awarded the title of Folklorista Peruana by the Ministro de Educacion del Peru, they have appeared at the Latin-American World’s Fair, the United Nations, and many folk festivals, and schools throughout the country. Presented by the Caribbean program of the Department of Education, the performances will be free to all Museum visitors. Because seating will be on a first-come, first-served basis, Members are advised to arrive early to avoid disappointment.

Natural History Photo Competition
The fifteen prize-winning photographs from this year’s Natural History Photo Competition will be on display from August 24 through October 31 in the Center Gallery. This picture of a little girl at an amusement park won first prize in The Human Family. The photographer was Seth L. Mayer.

Museum Notes

Special Exhibitions
A Flowering of Science: Plants in Captain Cook’s First Voyage (1768–1771). Through July 8 in the Naturamex Gallery. Selections of the pictorial record of the flora collected by James Cook on his first voyage around the world.


A Celebration of Birds: Louis Agassiz Fuertes and His Art. August 4 through October 2. Naturamex Gallery. This exhibition of the great field artist’s work features paintings of birds, mammals, and insects used during expeditions to Central America, South America, and Africa. (See articles pages 4 and 5.)

Natural History Photo Contest Winners. August 24 through October 31. Center Gallery. These fifteen photographs, featured in the June 1983 issue of Natural History, were selected by a panel of judges as this year’s winners.

African Textiles. Through December 4 in Gallery 2. The first comprehensive view of the uses and production of African textiles to be displayed in the United States. Artifacts from the British Museum represent the rich diversity of textile uses, such as armor for horses, wrapping for the dead, masks, puppets, and clothing.

Planetary Exhibit

Do alien cultures exist?

What are the odds? Philosophers and scientists have recorded their speculations since the fifth century B.C. Is Anyone Out There? considers the history of this speculation and explores it validity. Because of certain requirements for organic life to survive, not all stars would make good suns: some are too hot, some too cool, and some blow up. Not all have orbiting planets, yet given the extraordinary number of possibilities, there is a great temptation to let the imagination run wild. Included in the show are some old conceptions of moon men and Martians, as well as the discoveries that finally dispelled our notions of them. There is also a discussion of what quasars might be telling us, and how we should communicate with aliens, since they might not learn English as readily as E.T.

Sky shows times.
Weekly: 3:30 and 3:30 p.m.
Saturday: 11:00 and 4:00 p.m.
Sunday: 11:00 to 4:00 p.m.

Admission for Participating, Donation, and Members is $2.25 for adults and $1.25 for children. For non-Member prices call 873-8828.

Programs and Tours
Museum Highlights Tours. For the new Museum visitor as well as the veteran Museum goer. The Museum Highlights Tours offer fascinating glimpses into the history and exhibits of the Museum’s most popular halls. The tours leave regularly from the second-floor Information Desk. If you wish to join a free tour, please ask at the Information Desk for specific tour times.

Discovery Tours. The Museum offers exciting and unusual tours of exotic lands in company with Museum scientists, anthropologists, archaeologists, ethnologists, naturalists. For more information about tours and itineraries, write to Discovery Tours at the Museum or call 873-1440.

Natural Science Center. The Center introduces young people to the varied wildlife, plants, and rocks of New York City. Some exhibits include live animals. The Center is open Tuesday through Saturday, 10:30 a.m. to 12:30 p.m. and 3:30 p.m. to 4:30 p.m.
The Center is closed Sundays and Mondays.

People Center. Ethnics programs featuring dance, music, films, lectures, and workshops are presented on weekends from 1:00 to 4:30 p.m. Closed for the month of August.

Discovery Room. Children are delightd to touch and handle both natural and cultural specimens in imaginative “discovery boxes.” Starting at 11:30 a.m., boxes are distributed on a first-come, first-served basis at the first-floor Information Desk. The room is open only on weekends from 12:00 to 4:30 p.m.

Naturemax Information
The Naturemax Theater is equipped with a movie screen four stories tall and sixty feet wide as an extraordi

ary sound system and a projector for showing IMAX films, made ten times larger than ordinary movies. The theater is located off the 77th Street Lobby near the Great Canoe. Schedules and films may vary, so call the Naturemax Recording for current information before visiting the theater (212) 496-0900. Currently the films are: To Fly, a history of American aviation complete with bamsforming in the Midwest, ballooning over Niagara Falls, and hang gliding off volcanic cliffs in Hawaii.

Museum Information
Museum Hours. Monday, Tuesday, Thursday, Sunday: 10:00 a.m. to 5:45 p.m. Wednesday, Friday, and Saturday: 10:00 a.m. to 9:00 p.m.

Cafeteria Hours. Daily from 11:00 a.m. to 4:45 p.m. Wednesday, Friday, and Saturday, evenings from 5:15 to 7:00 p.m.

American Museum Restaurant. Luncheon is served daily from 11:00 a.m. to 3:00 p.m. Afternoon tea is served from 3:00 to 5:00 p.m. Dinner is served Wednesday, Friday, and Saturday evenings from 5:15 to 7:00 p.m.

American Museum Restaurant. Luncheon is served daily from 11:00 a.m. to 3:00 p.m. Afternoon tea is served from 3:00 to 5:00 p.m. Dinner is served Wednesday, Friday, and Saturday evenings from 5:15 to 7:00 p.m. The American Museum Restaurant is located next to the cafe in the basement.

Museum Parking Lot. Located on 81st Street. Open Monday through Thursday, 9:30 a.m. to 9:30 p.m. Friday through Sunday, 9:30 a.m. to 12:30 p.m. Rates are $5.50 for cars, $6.50 for buses.

Parking is limited.

The fifteen prize-winning photographs from this year’s Natural History Photo Competition will be on display from August 24 through October 31 in the Center Gallery. This picture of a little girl at an amusement park won first prize in The Human Family. The photographer was Seth L. Mayer.
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American Museum of Natural History

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American Museum of Natural History
The Evolution Revolution
Monday, October 17 and Tuesday, October 18, 7:00 p.m. Auditorium.
$11.00 for Members. $12.00 for non-members

In 1859, biologist Charles Darwin published The Origin of Species, a book based on his experiences aboard the Beagle and his subsequent studies. The book offered the first substantiated evidence of the gradual evolution of life on Earth, and proposed a theory concerning the mechanism of evolution: the theory of natural selection. The book had a profound impact not only on the history of science, but on society as a whole, beginning one of the most profound intellectual revolutions in history.

Dr. Ernst Mayr, distinguished Professor of Zoology at Harvard University and former curator in the Museum’s Department of Ornithology, will present a pair of lectures on Darwin and evolution as part of the Department of Education’s Fall Afternoon and Evening Lecture Series. In the first lecture, he will explore how the Darwinian revolution changed the way people looked not only at the biological world, but at society and human nature as well. He will point out that what people call “Darwin’s Theory of Evolution” is really several separate theories about the observed fact of evolution. Using five of these theories in particular, he will discuss how they differ from popular notions of Darwinism, and how they are the foundation of current evolutionary biology. In the second lecture he will discuss evolution since Darwin, showing how the numerous attempts since 1859 to refute Darwin have been unsuccessful. He will explain several of the new ideas and current directions that have modified and broadened our understanding of evolution as a process, but will show that even they have not displaced the basic Darwinian framework of evolutionary biology.

Dr. Mayr is one of the world’s leading scientists in the field of systematic and evolutionary biology. The author of several books including Systematics and the Origin of Species and The Growth of Biological Thought, he is well known for redefining the concept of a species from two things that look different or live in different places, to two things that cannot reproduce together.

The lectures are Monday and Tuesday, October 17 and 18, at 7:00 p.m. Tickets are $11.00 for Members, $12.00 for non-members.

Other lecture series offered this fall include Magic, Witchcraft, and Sorcery: How the Earth Works; Audubon, Fuentes, and Jaques: Extraordinary Natural History Artists, and Animal Life in Northeastern United States. For more information, or for tickets to Dr. Ernst Mayr’s lectures, please call (212) 873-7507.
**Forever Wild**

Wednesday, November 30, 7:30 p.m. Auditorium
$3.00 for Members, $6.00 for non-members

The Adirondack Council

North of Albany, in the heart of New York State, lies a tract of preserved sandwiched between hilltops, forests, streams, and lakes. This magnificent preserve includes hundreds of species of birds, fish, amphibians, and reptiles.

In 1892 the New York Legislature established the Adirondack Park, combining both public and private lands in the region, to preserve the area and protect the various Edwards. In 1894 the Adirondack Forest Preserve was established, consisting of all state-owned lands in the park. The park will be forever kept as wild forest land.

The Adirondacks, Wednesday, November 30
Participating, Donor and Contributing Members are entitled to tickets at the Members' price of $3.00. Associate Members are entitled to one. All other tickets are $4.00.

Number of Members' tickets: X $3.00
Number of additional tickets: X $4.00
Total amount enclosed: $-

Name: ____________________________
Address: __________________________
City; State; Zip: __________
Membership category: __________________________
Daytime Phone: __________________________

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

**Audubon Film Festival**

Wednesday Evenings, October 5 and 12. 7:00 p.m. Auditorium.
Free admission

The Audubon International Environmental Film Festival was initiated in 1981 to honor fine films addressing environmental issues. The public screenings here at the Museum will present a selection of films in the six different categories of the festival.

The screening on Wednesday, October 2, is The Fragile Mountain (55 minutes). This film, the winner of the Conservation/Ecology category, describes the lives of the mountain people of Nepal, their struggle to survive, and their efforts to protect the monsoon rain that sweeps through Nepal and snowmelts away forested mountains, threatening all lives of people. In Our Own Backyard: The First Love Canal (60 minutes), the winner of the Pollution category, is a portrait of the nine-year-old boy who lived in the community. In The Roof Rig (19 minutes), a neighborhood park which was organized by a group of children, and Dork Circles (82 minutes), a portrait of the neckless age which wins in the Social Issues category, the screening on Wednesday, October 12, will feature the winner in the Children's Films category, The Park That Stopped (20 minutes), which was organized by a group of children, and Dork Circles (82 minutes), a portrait of the neckless age which wins in the Social Issues category.

**Happenings at the Hayden**

**Mysteries, Muppets, and Lasers**

Cosmic Mysteries: Do UFOs present evidence of visitors from the stars? While many believe that the visitors of the stars' authorities to the center of our Milky Way galaxy? Could the extinction of the dinosaurs and other life forms of life millions of years ago have been caused by a giant meteorite? Cosmic Mysteries, the Hayden Planetarium's new show (through November 20), explores these and other fascinating questions.

Participating, Donor, and Contributing Members receive a 25% discount on all sky shows admissions. For information and prices call (212) 873-8282.

Wonderful Sky: Big Bird, Cookie Monster, Grover, Oscar the Grouch, Bert, Ernie, and The Count are all part of a new show for preschool children beginning this month. Wonderful Sky is intended as a first experience for children three through six years of age, and is designedged to give them an awareness and appreciation of things they look so for in the day and night sky. A teacher-host in the center of the Sky Theater will greet the children and soon be joined by images of they favorite Sesame Street Muppets. Together, through words, songs, and audience participation, they explore many of the wonders of the day and night sky. Wonderful Sky is a special program especially created for the American Museum-Hayden Planetarium, and is a joint production of the Planetarium, Jim Henzen Associates (creators of the Muppets), and the Children's Television Workshop (creators of Sesame Street).

The Laser Show: The music of Pink Floyd, a specially installed Foosax sound system, and dazzling new state-of-the-art laser visuals combine to create an all new experience in the laser light and show. Show times are Friday and Saturday at 7:30, 9:00, and 10:30 p.m.

Participating, Donor, and Contributing Members receive a 25% discount on all admissions. In addition, groups of 25 or more can buy tickets at a special rate. For more information call (212) 724-8700.
Snake Oil Salves and Kickapoo, Too

Thursday, October 6, 7:30 p.m. Auditorium
Free to Members. $3.00 for non-members
(Your Membership Card is Your Ticket of Admission.)

From the crowd-gathering balcony of a singing band, through the doctor's pitch for his cureative tonic, to the final farcical farewell, medicine shows were a source of lively entertainment for countless Americans in decades past. This fall the American Place Theater will recreate a medicine show with the help of 15 performers who once traveled the medicine show circuit. In conjunction with these performances, the American Museum of Natural History is pleased to present a special program on the history and anthropology of the medicine show.

Using slides and tape recordings, three scholars will discuss different aspects of the medicine show tradition. Dr. Brooks McNamara, author of Step Right Up: A History of Medicine Shows, will take a look at the evolution of the medicine show in "From Mountebanks to Medicine Shows: Three Hundred Years of Traditional American Entertainment." Mr. Glenn Hinton from the Department of Folklore and Folklife at the University of Pennsylvania will discuss "Selling Medicine Through Song: Traditional Music on the Medicine Show Stage." Mr. William Gallion, a collector of Medicine show memorabilia and an author on pharmaceutical history, will present "From Kickapoo to Wild West: Native American Imagery in the Medicine Show." In the course of the program, the lecturers will discuss remedies as part of 19th century medical philosophy and the role of racial stereotypes in medicine shows. The program is free to members of the Museum and $3.00 for non-members. Your Membership Card is your ticket of admission. Seating will be on a first-come, first-served basis. Please see the adjacent box for information about the performances at the American Place Theater.

Future Gazing with Isaac Asimov
Wednesday, October 26, 7:30 p.m. Auditorium
Sold out from previous issue

Throughout human history, inventions have transformed the way we live and the way we view the world. The telephone, the printing press, electricity, computers, and television have all profoundly influenced our society and culture in the 20th century. Dr. Asimov is one of the world’s most well-known and popular writers of science fact and fiction. His prolific output includes more than 500 books, and he recently compiled his first best-seller, Foundation’s Edge, which is the long-awaited sequel to his Foundation trilogy.

This program, advertised in the September issue of Rotunda, is open to Members and their guests at $5.00 per ticket. Non-member tickets may be purchased at $5.00 per ticket. To order tickets please use the adjacent coupon.

An Evening with Isaac Asimov, October 26
Participating, Donor and Contributing Members are entitled to four tickets at the Members' price of $5.00. Associate Members are entitled to one. All other tickets are $9.00.

Number of Members' tickets
X $5.00

Number of additional tickets
X $9.00

Total amount enclosed

Name:

Address:

City: 
State:
Zip:

Membership category:

Daytime Phone:

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

Ron Tunda
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SOLD OUT

Participating, Donor, and Contributing Members are invited to a special
Behind-the-Scenes Tour of the Department of Herpetology
Thursday Evening, November 3, or Sunday, November 6
$6.00 and open only to Members and their guests

Join us for a tour of the Museum’s magnificent collection of amphibians and reptiles. Meet departmental scien
tists and discuss with them their current research. Visit the research laboratories and collection rooms that are never open to the general public. Here Members will view the department’s breeding colony of king snakes, and learn about the department’s research ranging from poisonous frogs to several remarka
ble species of sexualized lizards. Members will also see the different technology used in collecting and preparing specimens so that they can be studied by scientists from around the world.

Coffee, tea, and punch will be served at the conclusion of the tour. Please use the adjec
tive coupon to register. Early registration is strongly advised for the limited number of places.

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

Behind-the-Scenes Tour (Open only to Participating, Donor and Contributing Members)

Tours will leave at fifteen-minute intervals beginning at 1:55 p.m. on Thursday, November 3, and 10:30 a.m. on Sunday, November 6. We will send you a confirmation card by mail which will indicate the exact time your tour will start.

Please indicate a first, second, and third choice (if possible):

- Thursday, Nov. 3, between 5:15 and 6:00 p.m.
- Thursday, Nov. 3, between 6:00 and 7:30 p.m.
- Sunday, Nov. 6, between 10:30 and 12:00 noon
- Sunday, Nov. 6, between 1:00 and 2:30 p.m.

Name:

Address:

City: State: Zip:

Membership category:

Daytime Phone:

Enclosed is my check for $ to reserve

places at $6.00 each for the Behind-the-Scenes Tour.

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

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Unnatural Doings
Saturday, October 29, Kaufmann Theater
1:30, 3:30, and 7:30 p.m.
Members: $1.50 for children, $3.00 for adults. Non-members: $4.00

Every culture has a reverence for the supernatural and unknown. Stories of ghosts, spirits, and magic are told to comfort and explain the unexplained.

Spins, spirits, and spooks from every corner of the globe will fill the Kaufmann Theater this October at a Members' Halloween program. Conjuring them all up will be storyteller Laura Simms and musician Steven Goen. Ms. Simms will spin tales of the supernatural from cultures around the world, while Mr. Goen will use instruments to provide the haunting music and sound effects.

The afternoon sessions, which are geared for family audiences, will include a classic Korean tale about the sasaks, and the woodwoman, a Mayan ghost story, and a ghost story that Ms. Simms claims actually happened to her. Ms. Simms will also tell families how they can transform themselves into witches.

The evening session will be for adults. Among the featured tales will be a love story about a king who buys a dream from the Dream Merchant, and a Mayan myth about a young man who acquires more magic than he can handle.

Laura Simms is one of America's foremost performers and storytellers of world folklore. She is a major force in the renaissance of storytelling in the United States and has performed at the Museum on countless occasions. Steve Goen is an acclaimed performer and teacher of world music. He is a master of Indian, Asian, and African flutes and percussion instruments. To order tickets, please use the adjacent coupon.

Dinosaurs Are Forever
Sunday, November 20, Kaufmann Theater
11:00 a.m., 1:30 and 3:30 p.m.
Open only to Members and their guests
$2.00 per person

What were the dinosaurs? Why did they disappear? What do we know about them? Young Members are invited to learn about these extraordinary reptiles with Stella Stegosaurs and the Hadrosaur from Hacksvick and in a musical program by Michele Valen. This song-filled exploration of times millions of years ago uses many musical idioms — country, swing, rock — as well as huge over-the-shoulder puppets to portray life in prehistoric times.

Michele Valen is a singer, songwriter, and gifted children's entertainer. Her ten years of teaching and performing have brought her to every kind of stage, from elementary school auditoriums to the halls of the Kennedy Center for the Performing Arts in Washington D.C. For this program she will be joined by bluegrass tenor/fiddler Mike Stein who also plays banjo and marimbas, and yodellers!

Dinosaurs Are Forever is intended for children ages ten years and under. It is open only to Members and their guests. If tickets still remain in November we will open the program to the public. To order tickets please use the adjacent coupon.

Tales of the Woodwinds
Sunday, October 16, Kaufmann Theater
1:30 and 3:30 p.m.
Members: $1.50 for children, $2.50 for adults. Non-members: $4.00

This October, the Story Concert Players will use a delightful mixture of live chamber music, pantomime, and narration to present two well-known animal stories. The first is a musical version of Noah's Ark, in which each group of animals is represented by a different musical instrument. The second is a retelling of Hans Christian Andersen's "The Ugly Duckling." As the narrator tells the story, the animals chime in, musically speaking their lives.

This event was once an ugly duckling. Join the Story Concert Players for a musical retelling of this classic Hans Christian Andersen story in Once Upon a Woodwind.

Spirit Stories from Around the World
Saturday, October 29, Kaufmann Theater
1:30 p.m. - 3:30 p.m.
Members: $3.00 for adults and $1.50 for children. Non-members: $4.00 for adults and children.

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

This event was once an ugly duckling. Join the Story Concert Players for a musical retelling of this classic Hans Christian Andersen story in Once Upon a Woodwind.
We are pleased to offer you this, the first book supplement of the American Museum of Natural History. It officially inaugurates new benefit for Members of the Museum.

- The forty or so books in this supplement represent some of the finest books recently published in the fields of anthropology, archeology, evolution, ecology, natural history and art and photography, dinosaurs and paleontology, and related areas — probably a greater variety of such books than you could find in most bookstores. All have been carefully scrutinized by the Museum for accuracy, interest, and significance.
- You can purchase these books at prices that are substantially lower than the publishers' prices — at least 10% in most cases with some at 30%, 40%, even close to 50% less.
- The Museum has been exceptionally fortunate in that several famous authors have agreed to personally sign limited numbers of books exclusively for the Museum. These include Roger Tory Peterson, Eliot Porter, and the Japanese photographer Hiroshi Hamaya, among others.

This catalog is an experiment — a way to bring fine books at reduced prices to our Members and friends. If it is a success (your order will confirm this!) then we plan to expand the variety and number of books offered in future months. We welcome your suggestions or criticisms. If you buy books for yourself or for holiday gifts, then you will find this supplement not only a time saver but a money saver as well. We doubt you could find a comparable selection of books anywhere at these discounts.

Finally, we would like to outline our unconditional guarantee.

Any book you purchase from this supplement may be returned within 30 days for any reason for a full refund of both your purchase price and shipping costs. If you ever have a complaint or are dissatisfied with our service, please write to us at the Museum. We will make sure your problem is taken care of promptly and efficiently.

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**A Celebration of Birds:**
**The Life and Art of Louis Agassiz Fuertes**


"He stands without peer, placed way ahead of his time." Roger Tory Peterson wrote about Fuertes. Indeed, to those who know birds, Louis Agassiz Fuertes (1874-1927) is considered to be America's greatest painter of birds. "Fuertes," wrote Peterson, "brought the art of bird portraiture to its highest degree of excellence."

A Celebration of Birds is a milestone in the publication of natural history books. It is the first major, definitive book on Fuertes' art, his life, and his influence.

Forty-nine extraordinary color plates and over 100 black-and-white drawings, washes, and other illustrations — many never before published — show the full range of Fuertes' genius. The book, created by the Academy of Natural Sciences, brings together the major Fuertes' collections in museums around the country, including the peerless collection at the American Museum of Natural History.

"The reproductions... are uniformly superb... . For the first time, justice has been done to the brilliant textures, meticulous detail, and exquisite shadings of Fuertes' art." — Philadelphia Inquirer

**Special Autographed Edition:** Roger Tory Peterson and Robert McCracken Peck have agreed to sign a limited number of volumes exclusively for Members and friends of the American Museum of Natural History. Each volume is personally autographed by both Peck and Peterson, and is available at no extra cost. They are $30.00 each, the same price as the regular, unautomographed books. Please order early, as books will be shipped on a first-come, first-served basis until the limited supply is gone.

Price: $30.00

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**American Places**


American Places is the result of a brilliant collaboration between Eliot Porter, one of the world's great photographers, and Wallace Stegner, the Pulitzer Prize-winning novelist and historian. It is an epic work, a chronicle of the discovery of our American land in extraordinary color photography and elegant, literate prose. Porter crossed the continent, following the footsteps of the explorers who discovered our land. He captured in 89 magnificent full-page color photographs the great landscapes of our country — the Great Smokies breaking through the mist, the sweeping prairies, the waterfalls of Death Valley, the Maine islands, the Californian headlands, and much more.

**Special Autographed Edition:** Eliot Porter has agreed to sign a limited number of volumes for Members and friends of the American Museum of Natural History. Each volume carries his personal signature on a special bookplate tipped onto the endpapers.

Porter is considered by many to be the greatest color landscape photographer ever. He was the first color photographer to be given a one-man exhibition at the Metropolitan Museum of Art, and when that landmark show opened in 1979, the Met hailed Porter as the "preeminent pioneer and innovator who first gave credibility to color photography as a fine art medium." John Neely, writing in American Photographer, said: "One cannot but realize that here is another Audubon, another Muir, a true naturalist at work." Single prints of Porter's work now average $1,200 each, and the full portfolio of 55 prints in the Metropolitan show sold out at $33,000. Quantities of American Places are quite limited, so please order as early as possible to avoid disappointment. Orders will be shipped on a first-come, first-served basis until the supply is gone.

Price: $50.00

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**Edward Sheriff Curtis: Visions of a Vanishing Race**


This splendid hardcover volume, written by Curtis's daughter, presents 175 of the great Indian photographer's finest works in full-page sepia reproductions. Many are published for the first time since his original, monumental work, The North American Indian. This superb account of Curtis's 30-year quest is drawn from his own writings, the recollections of his daughter, and his extensive correspondence.

Originally published at $35.00. Members' price: $19.95

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**Red & White: Indian Views of the White Man 1492-1982**


During five centuries of contact, Indians have spoken to whites with defiance, despair, resignation — and usually with great eloquence. For the first time, their statements have been brought together in one volume. Included are the words of Sitting Bull, Chief Joseph, Tecumseh, Tecumham, Crazy Horse, and many forgotten Indians whose voices are heard for the first time. The author includes excellent background material in a fascinating text. A profoundly moving book, a different history of America that all Americans should read.

"The breadth and power of this book are astonishing." — Dee Brown, author of Bury My Heart at Wounded Knee

Publisher's price: $14.95. Members' price: $13.45

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**Treasures of African Art**

Malcolm McLeod. Large-format hardcover, profusely illustrated. Abbeville Press

One of the finest presentations of African art ever published, with large color plates of magnificent pieces in the British Museum. "I can think of no better argument for the greatness of African art than this book: a limited number of volumes exclusively for Members and friends of the American Museum of Natural History. Each is personally autographed by both Peck and Peterson, and is available at no extra cost. They are $30.00 each, the same price as the regular, unsupplemental books. Please order early, as books will be shipped on a first-come, first-served basis until the limited supply is gone.

Price: $39.95. Members' price: $28.75
The Human Cycle
Colin Turnbull, Hardcover, Simon and Schuster.

In his latest and most controversial book, Turnbull explores the development of human culture in the various stages of the life cycle, from childhood to old age, by drawing on his work with the Mbuti, the !Kung, and his own upper-class upbringing. Turnbull contends that, behind the different rules and customs, all men and women live in the same eternal, immutable human cycle. This eminent anthropologist also suggests that many of the primitive cultures cope with the problems of love, work, loneliness, and growing old much better than our own. His disquieting conclusion is that our advanced Western civilization may have lost some fundamental human values.

"The Human Cycle constitutes a major contribution not only to ourselves and our society, but also to the solution of the problems which threaten to destroy us. It is a marvelously readable and inspiring book. If there ever was a book that was destined to become a classic, this is it." — Ashley Montagu

Publisher's price: $14.95, Members' price: $13.45

The Cambridge Encyclopedia of Archeology
Edited by A. Sherman. Large-format hardcover, profusely illustrated. Crown.

Over 50 outstanding scholars contributed to this comprehensive world-wide survey of archeology. The encyclopedia traces the development of human culture from its earliest beginnings in Africa and its spread throughout the world to the rise and fall of the great civilizations of Sumer, Egypt, Greece, Rome, and many others. Enriched with over 500 color and black-and-white illustrations with extensive maps and supplementary material. An invaluable reference work, it also makes a great gift for students or anyone with an interest in archeology and anthropology.

Publisher's price: $35.00, Members' price: $27.50

Books by Stephen Jay Gould
Hardcovers, Illustrates, W.W. Norton.

"There is grandeur in this view of life," wrote Charles Darwin in the last line of the Origin of the Species. The grandeur in that view is apparent in the brilliant writings of Stephen Jay Gould. Ten years Gould has written a column in Natural History magazine entitled "This View of Life," and the American Museum of Natural History is proud to offer to its Members and friends four outstanding books by Gould.

Ever Since Darwin, The Panda's Thumb, and Hen's Teeth and Horse's Toes are Gould's delightful collections of essays on evolution, history of science, Darwinism, time, and knowledge, and much more. The Mismeasure of Man is Gould's brilliant treatment of the questions of human intelligence, IQ, testing, and science's often misguided attempts to classify humans on the basis of "intelligence."

"Stephen Jay Gould is one of the most brilliant of our younger scientists, gifted, among other things, with the ability to write." — Ashley Montagu

About Ever Since Darwin: "Essays which combine literary, comprehensibility, and depth of insight." — Carl Sagan

Ever Since Darwin: Publisher's price: $12.95, Members' price: $11.00
The Panda's Thumb: Publisher's price: $12.95, Members' price: $11.00
Hen's Teeth and Horse's Toes: Publisher's price: $15.95, Members' price: $13.95
The Mismeasure of Man: Publisher's price: $14.95, Members' price: $12.70

Darwin and the Beagle
Alan Moorehead, Hardcover, profusely illustrated. Crescent Books.

In 1831 Charles Darwin embarked on the H.M.S. Beagle on what would become one of the most important journeys in the history of science. In this book, Moorehead tells the story of the voyage and brings in much interesting material that Darwin never wrote about in his Voyage of the Beagle. Moorehead's book is at once a gripping adventure story and a profound look into the mind and sensibilities of Charles Darwin.

This splendid book has been enriched with over 190 illustrations from the period, including brilliantly colored engravings, paintings, etchings, and drawings. Much of Darwin and the Beagle appeared in The New Yorker magazine, and it was chosen as Critics' Choice of the Year by the Sunday Times of London.

"Entertaining reading, enchantingly illustrated." — The Times (London)

Originally published at $20.00, Members' price: $17.95

Scientists Confront Creationism

For the first time, a group of highly distinguished scientists addresses the major arguments of the creationists. These scientists, including Stephen Jay Gould and David M. Raup, discuss such questions as: How old is the earth? Do gaps in the fossil record refute evolution? Could life have arisen by chance? What is the "scientific creationist"? and much more. A fascinating and comprehensive introduction to evolution, earth history, and the evolution/creation debate.

"A badly needed overview of the scientific view of evolution, explaining clearly and straightforwardly exactly what scientists think and why." — Isaac Asimov

"Should be read by any parent, teacher, school-board member, and legislator who has any doubts about where the truth lies." — N. H. Horowitz, California Institute of Technology

Publisher's price: $19.50, Members' price: $17.55

The Art of Natural History
S. Peter Dance. Large-format hardcover, profusely illustrated. Overlook Press.

This lavishly illustrated, oversize volume surveys the development of natural history art from the earliest times to the present. Included are virtually all the great artists and illustrators — Oliver, William Blake, Leonardo, Audubon, D.G. Elliot, Gould, Catesby, Wolf, Fuentes, and hundreds of others. 250 black-and-white illustrations and 63 stunning color plates show some of the most spectacular and beautiful animals ever depicted. This is the definitive volume on the art of natural history and is essential for anyone interested in the subject.

"Many of the pictures are so lovely that they fairly roam to be released from the pages and to feed the eye on the walls." — Time

"The color plates are gorgeous. . . . the book has been brilliantly printed in Holland, bound in Belgium." — Newsweek

"A collector's item the day you buy it . . . This book can only be described as extraordinarily beautiful." — Roger Caras

Publisher's price: $75.00, Members' price: $45.00

Wildlife Photography: The Art and Technique of Ten Masters
Ann Guilloyne, Susan Rayfield. Large-format hardcover, profusely illustrated. Amphoto.

In Wildlife Photography, ten of the world's greatest wildlife photographers detail their methods, techniques, equipment, and special knowledge — and how they sell their photos. It addresses all the major challenges of animal photography — from stalking animals and close-up photography to underwater shooting. Each chapter includes some of the finest examples of each photographer's work — over 120 breathtaking shots. More than half of these photographs have been featured in Natural History magazine. An essential book for anyone with a serious interest in nature photography.

"The pictures are glorious; the book is truly instructive, even inspiring."
— Los Angeles Times

Publisher's price: $24.95, Members' price: $22.45
Landslapes
Photographs by Hiroshi Hamaya. Very large, slipcased handover, profoundly illustrated, Harry N. Abrams, Inc.

The renowned Japanese photographer Hiroshi Hamaya spent two decades in pursuit of the most aweome and beautiful landscapes on the earth's surface. His finest landscpae photographs are magnificently reproduced here in full-page color plates in this lavish volume. It is his
torial impressed by Harry N. Abrams, the country's leading fine art publisher, as a broad portfolio of color photographs. Landscapes measure 15 inches by 11 inches and is bound in cloth, stamped, and slipcased in a cloth-bound case.

"For many of you Hamaya is already an institution and a legend. What you see here is just a collection of photographs ... but a celebration of our earth through the vision of a poet with a camera." — Ernst Haas, in the preface.

"As an accomplishment in color printing, book craft, and quality, this boxed, 167-page volume is at a level rarely reached by photography books. As an artistic and philosophical statement, Hamaya's book is a resounding affirmation that the earth possesses a majesty nearly beyond description." — Owen Edwards, executive editor of American Photographer, in Natural History magazine.

Special Autographed Edition: The photographer, Hamaya, has generously agreed to sign personally 300 copies for the American Museum of Natural History. These signed copies will be offered to Members and friends at $125, which is the same price as the unsigned volume; requests will be honored on a first-come, first-served basis.

To the Ends of the Earth

Around the turn of the century, the American Museum of Natural History sent forth the last great expedition to explore the unknown areas of the earth. These explorers photographed landscapes and peoples never before seen by Western man. Now the rarest and finest of their photographs have been gleaned from the Museum's vast archives to create this haunting and fascinating book about the last golden age of exploration.

Publisher's price: $27.50. Members price: $22.00.

Basin and Range
In Suspect Terrain

"Basin and Range is an epic adventure into the living earth." — Chicago Sun-Times

"After John McPhee's Basin and Range the world will never be the same for me. He has put geology into readable, understandable prose, even made it human and humorous." — The Boston Globe

"McPhee makes the earth move." — Time magazine

"In Suspect Terrain" is a book you cannot put down." — Natural History

"John McPhee has demonstrated that he is our best and liveliest writer about the earth." — Wallace Stegner, Los Angeles Times Book Review

Limited, Autographed Edition: Basin and Range and In Suspect Ter-
rrine are also available together as a set in a boxed edition entitled
Annals of the Former World. The edition is strictly limited to 450 sets. Each set has been personally signed by John McPhee.

Basin and Range: Publisher's price: $10.95. Members price: $9.86
In Suspect Terrain: Publisher's price: $12.95. Members price: $11.90

Annals of the Former World, both of the above in a signed, limited edition of 450 slipcased $75.00

Atlas of Early Man

This unusual volume traces concurrent developments across the Ancient World, from 35,000 B.C. to AD 500. What was happening in Western Europe when Knoos was supreme in Crete? At what stage was China when the Roman Empire was at its height? These are the kind of questions the author addresses. Over 1,000 drawings, photographs, and maps enrich this book. An unusually clear and fascinating treatment of ancient history, archelogy and anthropology.

Publisher's price: $25.00. Members price: $22.50

Dinosaurs: An Illustrated History
 Edmund H. Colbert. Hardcover, profoundly illustrated. Hammond

This fascinating volume is possibly the greatest general book on dinosaurs to appear in at least a decade. It is written by Edmund H. Colbert, creator of several of the world-famous dinosaur halls at the American Museum of Natural History. Colbert's text is illustrated with 200 illustrations, including 60 in full color and 50 drawings specially commissioned for the book, representing our latest understanding of how dinosaurs looked.

Colbert tells the complete story of the dinosaurs: their discovery, the bitter competition in the 19th century between rival dinosaur collectors, dinosaur expeditions, the complete life history of the dinosaurs, an embattled science and its sometimes strange, but also scientifically accurate, images of dinosaurs, and many others. Colbert has written a text that is clear and a delight to read. Anyone with an interest in dinosaurs will find this to be an utterly fascinating and absorbing book. Highly recommended.

Publisher's price: $30.00. Members price: $25.50

Dinosaurs, Mammoths, and Cavemen: The Art of Charles R. Knight
Sylvia Czerkas, Donald Glut. Softcover, profoundly illustrated. E.P. Dutton

Knight was the first and greatest artist to re-create the extinct creatures and strange, prehistoric landscapes of the prehistoric earth. His paintings (many of which are on display in the Museum) were not only breathtakingly beautiful but also scientifically accurate. Includes over 120 splendid full-color examples of Knight's work.

"Charles R. Knight opened our eyes to a former world. . . . None has excelled him." — Edmund H. Colbert

Publisher's price: $14.95. Members price: $12.90

The Growth of Biological Thought

In this monumental book, Ernst Mayr, who is curator emeritus at the American Museum of Natural History and former director of the Museum's Comparative Zoology at Harvard, explores the history of biology, the philosophical background of the life sciences, and the analysis of evolutionary theory in the broadest sense.

"It is a book of almost overwhelming interest, power, importance, breadth, depth, and breadth — a big book in every possible dimension. It has been received with praise sometimes bordering on stupification. The praise is warranted." — Horace Freeland Judson, Science 82

"This is an extraordinary, epic work ... [Mayr is] one of the most influential biologists of this century. . . . This book can, and should, find a place in the personal library of every student and professional worker in biology or the history of science." — Douglas Futuyma, Science

Publisher's price: $30.00. Members price: $27.00

The New Larousse Encyclopedia of Animal Life
Large hardcover, profoundly illustrated. Bonanza Books

Since its first publication, the Larousse Encyclopedia has sold over a quarter million copies and has become one of the most respected and successful books of its kind. This success is due to its accurate, clear text, its tremendous scope, and its over 800 photographs of animals in full color. No other animal encyclopedia in one volume comes close to the Larousse in beauty of illustrations, scope, and usefulness. Makes a superb gift for anyone (especially young people) interested in animal life.

Originally published at $60.00. Members price: $39.50
In this major book, Eckholm provides an overview of the world's critical environmental problems and challenges. Down to Earth is one of the most balanced and comprehensive books published on the world environment in years. Required reading for anyone concerned with the critical environmental problems of the 80s.

"An expert, all-encompassing appraisal of the global environment." — Kirkus Reviews

Publisher's price: $14.95  Members' price: $13.45

The Eric Sloane Collection

of beautiful softcover editions for Americans who feel it's not only nostalgic — but important — to remember. Eric Sloane is a historian and artist who has recreated for future generations the craftsmanship and artistry that is part of our country's memories and traditions.

An Age of Barns. With pen and words Mr. Sloan exploits all there is to know about early American barns, those "shires of a good life." $8.95

A Reverence for Wood. Here Mr. Sloan ranges over the aesthetics of wood, wooden implements, carpentry, tree identification, and other areas and manages to make a commonplace thing, wood, uncommon. Heavily illustrated with pen-and-ink drawings. $4.95

Our Vanishing Landscape. This delightful book explores the landscape of rural America, touching on such things as trees, fences and walls, mills, canals, roads and wooden roads, covered bridges, country churches, and more — all illustrated with hundreds of pen-and-ink drawings. $4.95

Diary of an Early American Boy: Noah Blake, 1805. Noah Blake was fifteen years old in 1805, and his diary, discovered in an old house, is here reproduced. Mr. Sloan has added a charming and informative commentary and many drawings. $4.95

A Museum of Early American Tools. Here Mr. Sloan delves into the tools and implements of our forefathers — axes, hatches, hammers, adzes, canoes, rabbits, plows, saws, trestles, wheels, and many more. With dozens of drawings. $4.95

Folklore of American Weather. A compendium of early American folklore about the weather, including sayings, rhymes, aphorisms, and so forth. Mr. Sloan skilfully separates fact from fiction. Lots of delicate pen-and-ink drawings. $3.99

Teach yourself birds songs. When walking in the woods, have you ever wished you could identify a bird by its song? Any one of these three records will help you with recorded examples, step by step, how to recognize a bird by its call. Each record comes with a 32 page manual. Please specify Songs of Eastern Birds, Songs of Western Birds, Common Bird Songs. Record with booklet is $5.95. Essential for birders, as a bird's song is usually the most positive means of identification.

Fading Feast: A Compendium of Disappearing American Regional Foods. Raymond Sokolov. Hardcover, illustrated. Fading Feast is the result of a two-year odyssey for Natural History magazine in which Sokolov crossed the country in search of regional American foods. From Key West to Minnesota he discovered the old cooks and chefs who still practice early American recipes and traditions in preparing food, and their wisdom is preserved in this delightful book containing over 100 recipes. "If you care about American cooking, as I do, you will find Fading Feast an exceptionally rewarding book." — Craig Claiborne. Publisher's price: $17.95; Members' price: $15.36

Early Scientific Instruments. Nigel Hawkes. Hardcover, illustrated. 73 full-color photographs of rate and intricate scientific instruments — astro-labes, microscopes, omegon, sundials, and many more. "This gorgeous book... includes pictures of mad inventions and other that were quite sane. All were handsome." — Boston Globe Publisher's price: $35.00; Members' price: $29.75

Galapagos: Islands Lost In Time. Tui De Roy Moore. Hardcover, thoroughly illustrated. Moore lived on the Galapagos for ten years and has captured in superb photographs the eerie vistas, dramatic volcanic formations, and exotic wildlife of the Galapagos islands. More than 300 absolutely brilliant photographs in this hardcover volume show hundreds of species and many breathtaking sights. Publisher's price: $30.00; Members' price: $27.00

The American Museum of Natural History's Naturalist's Journal

An unusual travel log and notebook for the nature traveler. Blank, ruled pages provide space for taking notes on animals and plants, exposure recordings for photographers, travel notes, or just plain thoughts and feelings. The study, simulated leather cover is stamped in gold. Twelve exquisite 19th-century colored engravings of animals and plants make this a special journal. A different sort of "travel log" for backpackers, campers, nature lovers, photographers, and, of course, naturalists. Members' price: $7.95

Indian Arts: The Spirit World

The 1984 Calendar for Members of the American Museum of Natural History

A magnificent full-color calendar of the finest examples of American Indian ceremonial art in the Museum. This very large wall calendar is our most lavish yet. Some highlights:

— The finest carved Bella Ccoa mask known, an intricate representation of the moon god.
— A delicate Pomo basket interwoven with brilliant feathers and abalone shell ornaments.
— A rare painting by Chief Short Bull showing the sacred Sun Dance.
— Intricate wickerwork, beadwork, pottery, and much more, all in radiant color.
— A studio room for notes, birthdays, or appointments.

The 1984 Members Calendar is an unusually beautiful item for your gift list.

Bookstore price: $7.50. Members' price: $6.75

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American Museum of Natural History

Central Park West at 79th Street

New York, N.Y. 10024
May 1983 — Toward the northern end of St. Catherine's Island, several buildings stand at what was formerly the heart of a great plantation. The largest structure, set apart from the others and called the Guttmann house, was built before the American Revolution by Baldwin Guttmann, one of Georgia's signers of the Declaration of Independence. In the two centuries since then, it has had several owners, including Tunis Campbell, governor of the experimental Black state established on St. Catherine's and neighboring islands during the Reconstruction Era. Near the old barn is the ruin of one of the first steam-powered cotton gins. Historic records in Savannah contain letters and journals of prominent businessmen who journeyed to St. Catherine's to see this new wonder in action.

Within walking distance are two rows of small cabins facing each other. Cozy and quiet — so spacious and comfortable to a visitor today — it is hard to imagine that each housed two families of slaves. All of these buildings were originally constructed from toby, a makeshift cement made from lime, sand, and shells from nearby Indian middens.

The interior of the zoo is stately white. So much so that one's gaze is drawn through the windows to the lush green of the trees and lawns. Adjacent to the exhibits are quarters for housing visiting scientists. Two cabins at the end of the row have been converted into laboratories — one for arachnologists and one for biologists — with long counters, tables, good lighting, and storage space.

The interior of the biology lab is stately white. So much so that one's gaze is drawn through the windows to the lush green of the trees and lawns. Adjacent to the exhibits are quarters for housing visiting scientists. Two cabins at the end of the row have been converted into laboratories — one for arachnologists and one for biologists — with long counters, tables, good lighting, and storage space.

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St. Catherine's Journal

A Day with the Frogs

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Within walking distance are two rows of small cabins facing each other. Cozy and quiet — so spacious and comfortable to a visitor today — it is hard to imagine that each housed two families of slaves. All of these buildings were originally constructed from toby, a makeshift cement made from lime, sand, and shells from nearby Indian middens.

Most of the old structures on the island were made from toby, a makeshift cement using lime, sand, and shells from nearby Indian middens.

Here the idea of vanilla, a small green seed pods, gathered from the island, are stored away at the southern end of the island. The early inhabitants of this area are believed to have used vanilla in their cooking.

From the time of the Spanish explorers, the island has been a haven for many species of wildlife. It is now a protected area and receives visitors from all over the world.
Inanna: Queen of Heaven and Earth
Wednesday, November 16, 8:00 p.m.
Kaufmann Theater
$8.00 for Members, $10.00 for non-members

In the first days, in the very first days, in the first night, in the very first night, in the first years, in the very first years was Inanna, the goddess of heaven and earth. Her story — tender, erotic, shokling, and compassionate — was inscribed more than 4000 years ago into clay tablets and wall murals from the ancient cultures of Sumer and Babylon. These written records of a vast literature of legends and songs are now fragments scattered throughout museums of the world.

For the first time in more than 4000 years, the cycle of Inanna will be presented in its entirety. Compiled from around the world and translated by Sumerologist Samuel Noah Kramer, the story has been arranged and unified by folklorist Diane Wolkstein. In this special Members' Evening Program, Diane Wolkstein will bring the legends again to life with her rich storytelling skills. Members will learn of Inanna in all her various aspects and guises.

Diane Wolkstein teaches storytelling at the Bank Street College of Education and is a noted medievalist at the New School for Social Research in New York. Since 1967 she has been a vital part of a storytelling program at the school of Hans Christian Andersen in Central Park. She is the author of eleven books, including: Inanna, Queen of Heaven and Earth, which she wrote with Samuel Noah Kramer.

For this special event evening of the Inanna cycle, anthropologist Geoffrey Gordon has composed an original score for instruments comparable to those of Sumer and Babylon — drum, flute, and tambourine — to accompany Ms. Wolkstein's reading of the tales and hymns.

Dance, music, and more fill the Kaufmann Theater on Wednesday with the presentation of Inanna: Queen of Heaven and Earth. This one-night-only performance will be held at Kaufmann Theater, 79th Street and Central Park West, New York, NY 10024.

Calypso to Limbo
Wednesday, October 19, 7:30 p.m. Auditorium

Dancers, singers, musicians, and actors compose the Ron Roach Caribbean Ensemble. They will present a variety of Caribbean art forms, including well-known Caribbean island dances and music like the limbo, calypso and reggae. The performers, who wear the traditional costumes of the Caribbean, celebrate the cultural similarities as well as the unique regional Identities of Caribbean people.

The performance, sponsored by the Caribbean Program of the Department of Education, is free to all Museum Visitors. For more information call (212) 873-1300, ext. 514.

Weekends in the Caribbean

During the month of October the cultural traditions of the Caribbean will be celebrated on weekends in the Leonard H. Eder Center. The programs will explore the music, dance, and traditions of Caribbean countries, including Cuba, Puerto Rico, the Dominican Republic, Haiti, Jamaica, Trinidad, Tobago, and the Virgin Islands. Films, performances, lectures, and demonstrations from these countries will be featured each weekend.

Members' Tour of the Month
African Textiles

Members are invited to take a special tour of the exhibition African Textiles, led by volunteers from the Museum's Highlights Tour program. Looking at examples of African craftsmanship, members will tour the African textile exhibition and participate in a drawing for a gift bag. Please call (212) 873-1300, ext. 514 for information.

Members' Tour: African Textiles. This Tour is free and open to Participating, Donor and Contributing Members of the Museum. Please indicate a first and second choice of times:

- Sunday, October 30 at 10:30 a.m.
- Wednesday, November 2 at 6:30 p.m.
- Friday, November 4 at 6:30 p.m.
- Saturday, November 5 at 10:30 a.m.
- Wednesday, November 9 at 6:30 p.m.
- Saturday, November 12 at 10:30 a.m.
- Sunday, November 13 at 10:30 a.m.

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- Sunday, November 13 at 10:30 a.m.
November at the Museum
Cuban Film Festival. Wednesday, November 2 and 9 at 7:00 p.m.
Identification Day. Saturday, November 5 from 2:00 to 5:30 p.m.
Midnight Romp Concert. Wednesday, November 9 at 7:30 p.m.
Native American Films. Saturday, November 12, and Sunday, November 13, from 11:00 a.m. to 5:00 p.m.
Inhabitants of Heaven and Earth. Wednesday, November 16 at 7:00 p.m.
Dinosaurs are Forever. Sunday, November 20 at 11:30 a.m. 1:30 and 3:30 p.m. (See article page 4.)
Commemoration of Puerto Rico's Discovery. Saturday, November 19 at 1:00 and 2:30 p.m.
Harlem Renaissance. Wednesday, November 30 at 7:00 p.m.
Forever Wild: The Adirondacks. Wednesday, November 30 at 7:30 p.m. (See article page 25)

Planetarium Events
Cosmic Mysteries. Through November 20. (See article page 25)


Programs and Tours
Museum Highlights Tours. For the new Museum visitor as well as the veteran Museum goer, the Museum Highlights Tours offer fascinating glimpses into the history and exhibits of the Museum’s most popular halls. The tours leave regularly from the second-floor Information Desk. If you want to join in a free tour, please ask at the Information desks for specific tour times.

Discovery Tours. The Museum offers exciting and unusual tours of exotic lands in company with Museum scientists, archaeologists, anthropologists, and naturalists. For more information about tours and itineraries, write to Discovery Tours at the Museum or call 873-1440.

Natural Science Center. The Center documents the lives of people to the varied wildlife, plants, and rocks of New York City. Stinner calls it the live animal picture. The Center is open Tuesday through Sunday, from 1:30 p.m. to 4:30 p.m.

It is also open on Saturday and Sunday from 10:30 a.m. to 12:30 p.m. The Center is closed Mondays and holidays.

People Center. Ethnic programs featuring dance, music, films, lectures, and workshops are presented on weekends from 1:00 to 4:30 p.m.

Discovery Room. Children are delighted to touch and handle natural history specimens in imaginative "discovery boxes." Starting at 11:45 a.m., free tickets are distributed on a first-come, first-served basis at the first floor Information Desk. The room is open only on weekends from 12:00 to 4:30 p.m.

Naturemax Information
The Naturemax Theater is equipped with a large screen, four stories tall and sixty feet wide, as well as an extraordinary sound system. There is a projection for showing IMAX films, made ten times larger than ordinary movies. The theater is located off the 77th Street Lobby near the Great Concourse. Screenings and films may vary, so call the Naturemax Recording for current information before visiting the theater: (212) 496-0900.

Museum Information
Museum Hours. Monday, Tuesday, Thursday, Sunday, 12:30 am to 4:30 pm, Wednesday, Friday, and Saturday 12:00 a.m. to 9:00 p.m.

Cafeteria Hours. Daily from 11:00 a.m. to 4:45 p.m. Wednesday, Friday, and Saturday from 5:15 to 7:00 p.m.

American Museum Restaurant. Luncheon is served daily from 11:00 a.m. to 3:00 p.m. Afternoon tea is served from 3:00 to 5:00 p.m. Dinner is served Wednesday, Friday, and Saturday evenings from 5:30 to 7:30 p.m. The American Museum Restaurant is located next to the cafeteria, in the South Court.

Museum Parking Lot. Located on 81st Street. Open Monday through Saturday 9:30 a.m. to 9:30 p.m. Friday through Sunday 9:30 a.m. to 12:30 p.m. Rates are $6.00 for cars, $7.00 for buses. Parking is limited.

Lion's Lair. Relax and enjoy refreshments with the animals in one of the halls. Wednesdays: 3:30-7:30 p.m. Saturdays and Sundays: Noon-5:00 p.m.

Tangerine Cafe. Open daily, through October, from 11:30 a.m. to 4:30 p.m. Located on the lower level of the main entrance on Central Park West.

Southwest Research Station. Museum Members have visiting privileges at this outdoor area. If you are planning a visit of less than one week, write ahead for details. Southwest Research Station, 3290 South Portal, Arizona, 85132, or call (602) 558-2396. For visits of more than one week, special arrangements should be made to the Deputy Director of Research, American Museum of Natural History, Central Park West at 79th Street, New York, N.Y. 10024, or call (212) 873-1300.

St. Catharine's Journal
(From page 9)

A male St. Catharine's green tree frog called for a mate. If there are enough of these frogs in one place, the cumulative sound is extraordinary, it belongs to the little grass frog, smallest species in North America. More spirited are the noisy quack of the squad frog and the irregular chortling and chukking of the leopard frog. As we stand listening to this amphibian symphony, another voice calls above tonight's sizzling. "Oh," says Zweifel, I can hear him smiling, even in the dark. "My toad." All of the calls we have heard tonight, despite their variety, have been made up of short notes, each lasting less than a second before repeating. That of the southern toad is a long, baritone roll of four, five, even six seconds — a rich, raspy note, like a bassoon and an oboe together. As we shine our lights around the pond, late-orange toad eyes shine back at us from everywhere. The toad calls again. A second joins him, then another. All there are calling from somewhere on the other side of the pond, too far away to record.

"It was like a symphony," says Zweifel, "I don't think we can get around to those three very easily.

The calls were carrying away the moist and mosquitoes that swarm around us because of the flashlights. Eventually we just turn them off and stand in the dark. All around us frogs are croaking, chirping, chapping, barking. But only three toads offer their baritone accompaniment. Finally we try to walk to them, splashing and mucking through the soft, flooded ground. What looks like dry ground to the flashlight keeps giving way with a splash. The leopard frogs chuckle their usual laugh. We should have wobbled feet, I think. Then the dry ground disappears altogether, and the water spreads out before us. We are wading, Zweifel says.

Zweifel looks across this obstacle and sighs, then bates away from a moth in frustration. The toads are still too far away, and it is too dark for Zweifel to be in the middle of the pond anyway. None of the others are giving any sign of joining the chorus, but we can hear the response. Turning back, we hop from illusionary dry spot to dry spot until we reach the car.

The observers are so close to the cabins it is only a short drive back. Once there, with the car engine turned off, we can still hear the toads. More than a noise, it is a fine melody, it is a song, but points out that no one has joined in. We could spend the night out there with a lantern and watch nothing more than mosquitoe bites. There will be other opportunities.

— Stanton G. Oliner

(See the end of this two-part article.)
The Land Nobody Knows

Wednesday, November 30, 7:30 p.m. Auditorium
$3.00 for Members, $6.00 for non-members

The Adirondacks is the largest park in the United States. Its six million acres encompass rolling hills and alpine summits, northern hardwood forests, and open marshlands. The headwaters of the St. Lawrence and Hudson rivers lie within its boundaries among 30,000 miles of rivers and streams feeding thousands of ponds and lakes. Bears still roam its woods, startled beavers slap their tails to warn off intruders, and the cry of the loon commonly pierces the silence of backcountry lakes.

The Adirondacks is also a land of ironies. It is within a day’s drive of fifty-five million people, yet it has often been called “the land nobody knows.” And while it is one of the best protected parks in the United States, it is also one of the areas most threatened by acid rain.

Members are invited to learn more about this remarkable region at our November Members’ program, when Dr. Anne LaBastille presents The Adirondacks: The Beauty and the Peril. Using beautiful slides, Dr. LaBastille will take members on a tour of this magnificent area, describing its diverse ecological zones and the plants and animals that inhabit its terrain. She will explain how humans have used the park in the past and how it is being used today. Then, she will take a look at the catastrophic effects of acid rain on the entire ecological balance of the region and what this portends for the future. More than 200 once pristine and abundant lakes have already lost their entire fish populations.

A writer, ecologist, and professional Adirondack guide, Dr. LaBastille makes her home in these mountains and is well versed in their lore. She has hiked and camped over hundreds of miles of the region, becoming acquainted with the local residents and their concerns about preserving this valuable resource. She has won the gold medal for conservation awarded by the World Wide Fund and serves as a juror for the J. Paul Getty Wildlife Conservation Award.

This program is presented in cooperation with the Adirondack Council. Please use the coupon on page 2 to order tickets.

Exceptional Gems

Three stunning gems — a three-century-old carved emerald called “The Mogul,” an almost flawless emerald crystal from Colombia, and a rare Burma ruby — are on exhibit in the Morgan Hall of Gems through Friday, January 13.

Eye on Cuba

A decade of documentary films, covering music and dance, art and politics, will be presented in two evenings at the Cuban Film Festival. Page 5

Blacks and Indians

Hundreds of enslaved blacks who escaped their bondage before the Civil War were welcomed as friends and neighbors by the Indian tribes. Join William Loren Katz as he discusses the relationship between Blacks and Indians on the American Frontier. Page 2

Folder’s Frolic

The ancient art of paper folding will be taught by volunteers from the Friends of the Origami Center of America at Membership’s Sixth Annual Origami Workshop. The Origami Holiday Tree will be on display starting November 21. Page 3
Members’ Memo
Taking You to the World

A visit to the Museum can be like a trip around the world. At the end of our halls, you can be staring at zebras grazing on an African plain or moment by moment in a Chinese wedding chair exquisitely inlaid with knaglish feathers the next. Our programs allow you to experience the haunting music of the Andeans, marvel at the delicacy of an Indonesian dancer, or discover the hidden world of Asian gypsies.

Since the Museum brings the world to you in so many ways, it is only natural that we should also take you to the rest of the world. We provide this opportunity through our Discovery Tours program which allows members to travel to some of the world’s most exotic areas. In 1984, the Discovery Tour program included seven cruises and six land programs over five continents to such remote sites as Mendis in Papua New Guinea and Mt. Kamben in Rwanda.

The tours are led by Museum scientists and other experts who have done research in the areas and who are able to provide fresh perspectives on the lands and their people. They take participants not only to the major tourist attractions but also to the little known sites which most people never see. The Museum uses the vast network of friends it has made throughout the world, which has led to some extraordinary experiences.

In 1985, the Queen of Thailand and her group entertained them at the Royal Palace.

One of the most exciting trips of 1984 was the “Oriental Passage.” If you signed up for this tour, in a few months you would arrive in Sri Lanka and take a morning drive to Sigiriya, a 660-foot high natural rock formation that features beautiful pastel frescos. A week later, you would be aboard the luxury ship Brilliana, heading for the Andaman Islands, an archipelago of 200 islands lying in the Bay of Bengal. Once on land, you could enjoy a beach barbecue on a sandspit, exploration with C. Lavett Smith from the Department of Ichthyology. From there, it is on to recently opened Burma and the city of Pagan, home of the world’s largest temples.

One of the most interesting tours of 1984 is the “Indonesia Odyssey.” The journey continues to one fabulous place after another. Lombok, site of Indonesia’s largest temple complex, Komodo, home of the 200 pound and 10 foot long Komodo Dragon; Bungong, a former pirates’ haunt, and finally Bali where you would see a traditional Barong dance and visit the village of Bali’s most renowned wood carvers.

Other highlights for the 1984 season are a Papua New Guinea Adventure (and a chance to see the magnificant birds of paradise), a cruise up the entire navigable length of the Nile, a Galapagos Island Cruise, an art tour of Tibet and China, and a land program to view Alaska’s mysterious wildlife. For more information about these and other tours, please call the Discovery Tours office at (212) 873-1440. They will be glad to send you brochures and information about the tour of your choice.

Blacks and Indians

Wednesday, November 16, 7:00 p.m. Auditorium Free.

During the slave era, hundreds of blacks escaped their bondage on Southern Plantations and found refuge and friendship among Indian tribes from Rhode Island to California. Forming settlements along the Indian villages, several former slaves actually became chiefs of their adopted nations. It is estimated that one third of Black Americans have Indian blood, including such notables as Lena Horne and Frederick Douglas.

William Loren Katz, author of The Black West, will discuss this little known aspect of American History in a slide illustrated lecture on Black Indians: The Hidden Connection. He will describe how Blacks and Indians intermarried, raised and educated families, tended crops and cattle together and forged social alliances. He will tell the stories of Black Indians such as John Cola, a chief of the Seminoles, who attempted to negotiate treaty terms with President Polk in Washington and was shot dead on bloodshed in the Seminole Wars. William Loren Katz is the author of more than twenty books on blacks and minority cultures. He has done extensive research on a little played role by Black Americans in settling the frontier, a role previously ignored in our nation’s history books. He has taught at Columbia University, N.Y.U., and U.C.L.A.

Sponsored by the African American Program of the Department of Education, the program is free to all Museum visitors. For more information, please call (212) 873-1300, ext. 514.


Black and Indian Art:
The Adirondacks, Wednesday, November 30. Participating, Donor, and Contributing Members are entitled to six tickets at the Members’ price of $3.00. Associate Members are entitled to one. All other tickets are $6.00.

Number of Members’ tickets $3.00 $ X
Number of additional tickets $6.00 $ X
Total amount enclosed: $ X

Name:
Address:
City State Zip
Membership category:
Daytime Phone:
Make check payable to the American Museum of Natural History and mail with a self-addressed, stamped envelope to: The Adirondacks, Membership Office, American Museum of Natural History, Central Park West at 79th Street, New York, N.Y. 10024.

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Social Climbers
Thursday, December 15, 7:30 p.m. Auditorium
Free and open only to Members.

What New Yorkers live in
the most elegant apartment
buildings, eat in the best restaurants, ride in buses, subways, and even in limousines, only come out at eight, and are among the most widely recognized residents of the city? They have been around since the dinosaurs, and arrived here with the first settlers from Europe. Although living in New York now is tougher than it was then, they continue to thrive.

Members and their guests are invited to join Dr. Betty L. Faber, research associate in the Department of Entomology, for a slide lecture in which she will discuss aspects of her studies on the behavior of cockroaches. The German cockroach is the dominant one in New York, having immigrated here at least a century ago. But is it the slightly larger American cockroach that Dr. Faber has studied at the American Museum for the past eight years? In a rooftop greenhouse, she observes a colony of two to three hundred wild roaches, many of which carry a num bered piece of adhesive tape on their backs. By labeling the animals Dr. Faber is able to keep records of the lives of individuals, observing and recording their movements, eating habits, reproductive cycles, and lifespans. She will explain how the animals interact and survive in this protected environment, where no exterminators are allowed. In addition, she will talk about some of the more interesting and beautiful (believe it or not!) cockroaches from other parts of the world.

Members are invited to come early to look at some special displays that will be set up outside the Auditorium. Dr. Faber and her associates will be available to talk about the displays, which will include the hissing Madagascar cockroach and several other exotic species, and demonstrations of various cockroach behaviors.

Off to the races? No, the American Cockroach has been tagged for Betty Faber's research on cockroach behavior.

Sixth Annual Origami Workshop
Saturday, December 3, School Lunchrooms
Free and open only to Members.

Members are once again invited to perform feats of paper magic at our Sixth Annual Origami Workshop. Origami is the ancient art of paper folding. This year nimble-fingered participants will learn how to transform squares of paper into butterflies, barking dogs, Japanese cranes, Bagh's swivel ornaments, and perhaps even a strawberry. We will also have workshops especially geared for children six and under. Junior folders will create jumping frogs and a box for them to jump into, and sailboats, swans, and candy canes. All workshops will be led by volunteers from the Friends of the Origami Center of America. These are the same people who create the wonderful Origami Holiday tree that graces the Roosevelt Rounda each winter. This year the tree will be on display from November 21 through January 8.

No experience is necessary and all materials will be provided. In addition, workshop participants will receive an Origami workbook so they can practice their folds at home. To register, please use the adjacent coupon. Early registration is strongly advised.

Behind-the-Scenes: Herpetology
Thursday evening, November 3, or Sunday, November 6
$6.00 and open only to Members.

Scientists in the Department of Herpetology are conducting some of the Museum's most exciting scientific research. Their work ranges from genetic studies of an all-female species of lizard to research on a brightly colored South American frog that secretes one of the strongest known animal poisons. Members are invited to learn more about the department's research and collections in a Behind-the-Scenes Tour this November.

The tour will take you to research laboratories and storage areas that are never open to the general public. There you will meet scientists and technicians who will describe the scientific work in progress and show you specimens from one of the world's finest herpetological collections. There will also be demonstrations of how amphibians and reptiles are collected and preserved for scientific use. Refreshments will be served at the conclusion of the tour.

The tour is open only to Participating, Donor, and Contributing Members of the Museum. It was originally learned in the October issue of Rounda and its of press time a limited number of spaces still remained. For information and reservations, please call the Membership Office at (212) 873-1337.

Red-throated amphis, lizards, snakes, and frogs will be on display in the Members' Tour of Herpetology.

Cockroaches. Thursday, December 15. This program is open only to Members of the Museum and their guests. Participating, Donor and Contributing Members are entitled to tax-free tickets. Associates are entitled to one. Additional tickets may be purchased at $4.00 each.

Please send me _______ tickets

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

Please mail with a self-addressed, stamped envelope to:
Cockroaches, Membership Office, American Museum of Natural History, Central Park West at 79th Street, New York, N.Y. 10024.
Dinosaur Jamboree
Sunday, November 20, Kauffman Theater
11:30 a.m., 1:30 and 3:30 p.m.
Sold Out From Previous Issue

From the Greek words meaning, for "terrible," and suffix, for "lizard," the English word dinosaur was derived for the giants who ruled the earth 140 million years ago. Young members, ages ten and under, will have an opportunity to learn more about these fascinating creatures in a program of original music and song by performer Michele Valeri.

Ms. Valeri will sing of Paleontologists' Professor Jones digging for dinosaur bones in Texas; Stella Stegosaurus, who is built like a tank; and Tyrannosaurus Rex, stalking his prey in the jungle. The antics of these characters will be enhanced through Ms. Valeri's colorful, whimsical puppets, who bring the Leaping Lizards and the Hadrosaur from Haddonstown to life. They will be accompanied by musician Mike Stein.

Michele Valeri is a teacher, singer, guitarist, and recording artist with an appealing repertoire for children of all ages. She has performed at Wolf Trap and the White House, and produced an acclaimed children's record, "Mi Casa Es Su Casa," a bilingual journey through Latin America. Mike Stein is a bluegrass musician who plays the fiddle, banjo, and other instruments. He has contributed many of the songs on this program and is an accomplished yodeler.

Dinosaurs Are Forever was originally advertised in the October Rotunda. As of press time a limited number of tickets were still available.

Dinosaurs Are Forever, Sunday, November 20, Participating, Donor and Contributing Members are entitled to five tickets at the Members' price of $2.00. Additional Members are entitled to one. All other tickets are $4.00.

| Number of Members' tickets | X | $2.00 |
| Number of additional tickets | X | $4.00 |
| Total amount enclosed | |

Please indicate a first and second choice of time: 11:30 a.m., 1:30 p.m., 3:30 p.m.

Name:

Address:

City: State: Zip:

Membership category:

Daytime Phone:

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

Jeholosaurus and plesiosaurs. Join dinosaurs from all over for a program of music and song about their life and times.

Sumerian Epic
Wednesday, November 16, 8:00 p.m. Kauffman Theater
Sold Out From Previous Issue

The ancient Sumerians, inhabitants of the alluvial valleys of the Tigris and Euphrates rivers, developed the cuneiform, or wedge-shaped, system of writing. Among the thousands of clay tablets inscribed in cuneiform still extant are literary works that reveal the religious beliefs, ethical ideas, and spiritual aspirations of this ancient people.

From the clay tablets comes one of the oldest recorded stories, the tale of Inanna, Queen of Heaven and Earth. Born of kings of the sea, Inanna descended to Earth to await her womanhood and assume her crown as Queen of the Land of Shumer. She received her power from the resources and fertility of the land. To complete her destiny, she gave up her earthly powers and cast herself into the underworld, only to be reborn into the sky as Goddess of the Morning and Evening Star, of Love and Procreation.

In this special Members' Evening Program, storyteller Diane Wolkstein will retell the story of Inanna in all her aspects — as woman, lover, seeker, ruler, and the source of all fertility power. The premiere of an original musical score, composed and performed by Geoffrey Gordon, will accompany Ms. Wolkstein's re-creation of the cycle of Inanna.

Diane Wolkstein has been a featured storyteller at festivals, libraries, universities, and museums for the past fifteen years. The author of eleven books, she also has made four recordings. Her most recent book, coauthored with Samuel Noah Kramer, is Inanna, Queen of Heaven and Earth, published this year.

Geoffrey Gordon has composed original scores for a variety of dance and theater ensembles, including several based on ancient cultures in Tibet and Central America. A performer he specializes in playing unusual percussion instruments from many countries.

This program is presented by the Membership Office in cooperation with the Jung Foundation for Analytical Psychology. It is made possible in part with support from the Education Program of the New York State Council on the Arts. This program was originally advertised in the October issue of Rotunda. Please call (212) 873-1327 for ticket availability and information.

Harlem on My Mind
Wednesday, November 30, 7:00 p.m. Kauffman Theater
Free

Following World War I, during the roaring twenties and into the Great Depression, there was a flowering of black culture of special vitality and spirit that inspired achievements in art, drama, films, theater, music, and politics. The center of this creativity was Harlem, where the best jazz in town was provided by talents such as Duke Ellington and Josephine Baker, and literature flourished with poets and writers like Langston Hughes and Countee Cullen. Dozens of clubs and cabarets provided floor shows and revues that attracted the wealthy, from midtown Manhattan.

A presentation by Ernest Smith and Howard E. Johnson, the Harlem Renaissance, will explore this golden age and its impact on American culture, using slides, original recordings, and archival film. Calloway, films of artists such as Ethel Waters, Cab Calloway, and Ethel Blake.

Ernest R. Smith is a collector of archival films, slides, and ephemera on jazz and jazz dance. He co-authored The Black Book, a history of black culture from slavery to World War II.

Howard E. Johnson, Associate Professor in Sociology at the State University of New York at New Paltz, was once a singer and dancer in the Duke Ellington Revue at Harlem's famous Cotton Club. He collects films and recordings concerning the sociology of black studies.

On December 7, the two men will offer an additional lecture on the Cotton Club Era. These programs are presented by the African-American Program of the Department of Education, and are free to all Museum visitors. Seating will be on a first-come, first-served basis, and Members are advised to arrive early to avoid disappointment. For further information, please call (212) 873-1300 ext. 514.

Trash or Treasures?
Saturday, November 5, 2:00 to 5:30 p.m.
Roosevelt Rotunda, Free

Remember that bleached bone you found on an outing at the beach? Or that rusted out the rock you picked up in Central Park that looked like a fossil? Here's your chance to find out what these small treasures really are. Bring all your finds to the Museum and let one of our scientists identify them.

Staff members from the departments of Invertebrates, Entomology, Vertebrate Paleontology, Mineral Sciences, and Anthropology will be on hand to answer your questions and show you some interesting examples of their own treasures. People of all ages are welcome, along with their rocks, shells, insects, fossils, leathers, pottery, minerals, bones, and fabrics (no stained glass, please). Identification Day is free to all Museum visitors. The program is made possible in part by a grant from the Helena Rubenstein Foundation. For further information, please call the Department of Education at (212) 873-1300, ext. 556.
December at the Museum

India Month. Leonard People's Center. Weekdays. 1:00 to 4:30 p.m.

Members' Oral History Workshops. December 3.

The Cotton Club Era. Weekdays. 10:00 to 11:00 a.m.

Cockroaches. Thursday, December 15, at 7:30 p.m.

Anthology of Cuban Music. Saturday and Sunday, December 10 and 11 at 3:00 p.m.

Bloom Jingalee Concert. Sunday, December 18 at 3:00 p.m.

Planetarium Events

Cosmic Mysteries. Through November 20.

Are UFOs visitors from the stars? Could the extinction of the dinosaurs millions of years ago have anything to do with it? What will be the ultimate fate of our universe? Cosmic Mysteries explores these and other fascinating questions, the answers to which have been the subject of our attention. Space shows every day.

Sky shows times:

Weekdays: 1:30 and 3:30 p.m.

Saturday: 11:00 a.m., and

cosmic films, have through the week.


African Textiles. Through December 4 in Gallery 3. The first comprehensive view of the use and production of African textiles to be displayed in the United States. Artifacts from the British Museum represent the rich diversity of textile uses, such as making cloth, weaving for the dead, masks, puppets, and clothing.

Francis Lee Jaques, Artist-Naturalist. Through January 8, 1984. Akeley Gallery. This exhibit features this artist's pioneering work in the realm of wildlife habitat diorama design.

Native American Film Festival

Saturday, November 12 and Sunday, November 13, 11:00 a.m. to 5:00 p.m. Kaufman Theater. Free.
Members' Tour of the Month

The Art of Francis Lee Jaques

The November tour will offer an overview of the work of diorama artist Francis Lee Jaques. Jaques worked at the Museum for 18 years and was instrumental in creating the look of the habitat groups as we know them today. His interest in "the shape of things" and his status as both naturalist and artist made him one of the leading museum artists of his day. The tour will include visits to the Hall of Asian Mammals and the Hall of Ocean Life, as well as the Hall of African Mammals. Jacques painted the Borge Group in the Hall of North American Forests, participants will become familiar with Jacques' innovative Olympic Forest Group. A magnificent example of Jacques' overall concept of museum design will be seen as the tour proceeds to the Hall of the Birds of the Pacific, where the artist painted all the backgrounds and the huge ceiling dome.

Finally, Members will view examples of Jackson's easel paintings and scratchboard drawings in the special exhibit installed in the McElroy Gallery. All tours are led by volunteers of the Museum's High Lights Tours Program. To register use the adjacent coupon.

John James Audubon, Louis Agasie Fuertes, and Jaques

John James Audubon, Louis Agasie Fuertes, and Francis Lee Jaques are among the most well-known and respected of natural history artists. All three are particularly remembered for their portrayals of birds. Audubon's magnificent folio, The Birds of America, is world famous. Fuertes's ability to capture the personality of a flying bird on canvas was extraordinary. Jaques, an innovator in the design of museum habitat groups, was a master at placing a bird within its environment. In this series of Monday evening lectures, participants will learn more about these influential artists' work.

On November 7 Michael Harwood and Mary Duranti, participants of On the Road with John James Audubon, will discuss Audubon's life and work. On November 14, art historian and naturalist Robert McCracken Peck will discuss the work of Louis Fuertes. Mr. Peck is the author of A Celebration of Birds: The Life and Art of Louis Agasie Fuertes. And on November 21, Stephen C. Quinn of the Museum's Exhibition Department will highlight the work of Jaques, including the remarkable dioramas he painted for the Museum. For information, please call the Department of Education at (212) 873-7507.

A Natural Fusion

Wednesday, November 9, 7:30 p.m. Kaufmann Theater. Free.

The sounds of chirping crickets, rustling leaves, human heartbeat, and singing birds will blend with the musical styles of East and West when Mitchell Korn performs compositions from his new album, "The Natural Sciences." The compositions reflect Mr. Korn's view of nature as a musical instrument and the interest in the color, texture, and environment of sound.

Mr. Korn's music is a unique combination of such diverse elements as Delta blues, the haunting melodies and rhythmic patterns of Eastern music, the spontaneity of American jazz, the clarity and harmony of classical music. He has made use of electronic sounds and tape recording from nature in many of his pieces, often combining them with unusual percussion instruments.

Mr. Korn has performed in concert halls throughout the United States. He has studied with such notable musicians as jazz trombonist Roswell Rudd and Indian composer and sitarist Ravi Shankar. Sponsored by the Department of Education, the program is free to all Museum visitors. For more information, please call the Education Department at (212) 873-1300 ext. 559.

Give the Museum for the Holidays

Open our doors to your family and friends for this holiday season with a gift of membership. Let them share with you the museum's history and evolve with the East and West for over 2,000 years. Members will have the opportunity to attend special openings and programs for these and other events.

As a holiday benefit, Members may give gift memberships at savings of more than 30%. That's just a $24 for a Membership and only $24 for a Participating membership. Once you receive your order, we will send you a beautiful greeting card to announce your gift.

A Museum Membership is the perfect gift because it can be enjoyed throughout the year. Give a gift today and look at all you will be giving in the year to come:

Associate Membership ($18 but $14 for you!)
- Natural History magazine for a full year
- Free admission to the Museum
- Half price tickets to the Natural History Museum
- Discounts at the Museum shops and the American Museum Restaurants
- Access to the Members' Lounge

Participating Membership ($35 but $24 for you!)
- All of the above plus
- Free admission to the Museum for the family
- Rotunda, the Museum's newsletter
- Half price tickets to Naturemax (six per show)
- Discounts on Education Courses and at Planetarium sky shows
- Behind the Scenes Tours
- Members-only family and evening programs
- Special viewings of exhibitions

YES! A Gift of Membership is a wonderful idea. Please enroll the following as:

Associate Member ($12 at the Members' Discount)
Participating Member ($24 at the Members' Discount)

Name:
Address:
City: State: Zip:
This membership is a gift from:
Name:
Address:
City: State: Zip:
Membership category:
Enclosed is my check payable to the American Museum of Natural History.
Please charge my MasterCard American Express Card
Card No:
Valid to:
Phone:
Please bill me after the holidays.

Save time and order by calling our toll free number:
(800) 247-5470
Cuban Film Fest

Wednesdays, November 2 and 9, 7:00 p.m. Auditorium. Free.

The emotions that moved an entire nation over a century of revolution are recalled by Cayita Areal, a ninety-six-year-old Cuban woman in Luis Felipe Bemaza’s film Cayita: Leyendary Gest. Cayita’s stories provide a first-hand account of the struggles and history of the Cuban Republic from Marti to Castro. Her account is one of many which will be represented in the Museum’s Cuban Film Festival.

Also included in the films to be shown on November 2 is Contraversion, by Rolando Diaz. It uses a popular form of music to structure a humorous and ironic argument around the subject of machismo and women’s role in Cuba today. Bemaza captures another fascinating film portrait in Pedro Ceto por Ciento, the story of Pedro Acosta, a sloppy farmer in the Sancti Spiritus province, a witty, down-to-earth original who has never lost a cow to thieves. The experiences of exiled children are explored in the film Los Ojos Como Mi Papa, in which the filmmakers Pedro Chaskel and Fedro Robles record the stories of the children’s flight from other Latin American countries to Cuba.

On November 9 the screeners will feature Octavio Cortiz’s Hablando del Puerto Cubano, which uses verses from the well-known “Guantanamera” to build an appreciation of the punta, a passionate music threatened with extinction. Panorama is the third of Melchor Castel’s performance films featuring the El Conjunto Nacional de Danza Moderna, a retrospective collage of the diverse rhythms and dance forms that have evolved in Cuba. And Arte del Pueblo, by Oscar Vales, documents the creative work in paper-maché done by residents of Juanelo in old Havana.

These are only a few highlights of the Festival, which is free and open to all Museum visitors. It is presented by the Caribbean Program of the Museum’s Department of Education. For more information and a complete schedule, please call (212) 873-1300, ext. 514.

Controversia will be one of the featured films in Museum’s Cuban Film Festival. It takes an often hilarious look at sexual roles in Cuba today.

Changing Perspectives

Thursday, November 10, 8:00 p.m. Auditorium. Free.

Westerners’ view of people from vastly different cultures has changed considerably over the past fifty years. In this program Dr. Malcolm Arb, Chairman of the Museum’s Education Department, will discuss how the work of filmmakers has evolved to give a more realistic portrayal of non-Western peoples. He will screen one of the films of the Margaret Mead Film Festival, A Zzeno Scenes and Recollections, by Jayanil Roberts and Roger Sandall. The film presents a fascinating glimpse into the lives of women in a royal palace in Guatemala, India, through the eyes of the Maharajah’s wife. The Maharajah’s son is one of the filmmakers. Short excerpts from some archival films will also be shown as Dr. Arb illustrates the changes that have occurred in the filmmakers’ methods.

The program is one of a series of events taking place throughout the City during November. In conjunction with an international conference on Communications, Technology, and Traditional Cultures. The Museum’s Department of Education is cooperating with the International League of Folk Arts for Communication and Education related to United Nations Development Concerns, and the La Mano Third World Institute of Theater Arts, in preparing this program. The program is free to all Museum visitors. Please see the lower Central Park West entrance. Seating will be on a first-come, first-served basis. For further information call (212) 877-2981.

Habana Melodies

Saturday, December 10 and Sunday, December 11 at 3:00 p.m., Kaufmann Theater.

The first tasty Cuba song was heard in the streets of Santiago de Cuba at the end of the seventeenth century. Called La Me Teodora, after the name of a popular street singer, it was the beginning of a host of traditions that would result in a new musical form. Over the next three centuries Spanish, guanarito, congos, and huayno became melded with black peoples’ songs, dances, and congos to form the rhythms that would become characteristic of Cuban music. By the twentieth century, both Europe and the United States were dancing to the rumba, the congo, and the mambo. The richness and beauty of this tradition will be presented.

In a special program by the award-winning theatrical company, Repertorio Español, entitled “Habana: Antología Musical,” it compiles forty songs that touch on a wide variety of styles and periods. Conceived and directed by Rene Bach, and sung by nine members of the company, the program includes popular songs such as Siboney and Moro llov, and selections from Cuban canciones and operetas, such as Monte O y Cecilia Valdés.

The performance is sponsored by the Caribbean Program of the Department of Education. Use the adjacent coupons to order tickets. For information, please call (212) 873-1300, ext. 514.

Day celebration is free to all Museum visitors. Seating will be on a first-come, first-served basis to members are advised to arrive early. For more information, please call the Caribbean Program of the Museum’s Department of Education at (212) 873-1300, ext. 514.

Discovering Puerto Rico

Saturday, November 19, 1:00 and 3:00 p.m. Kaufmann Theater. Free.

On November 19, 1492, Christopher Columbus discovered a small island in the Caribbean which he called San Juan. Years later the name was changed to Puerto Rico or “rich port.” In celebration of the 400th anniversary of Puerto Rico’s discovery, the multitalented Teatro Ostra Cosfa will present a lively program of Puerto Rican song, dance, comedy and drama.

The celebration will begin with dramatic and comic scenes illustrating the spirit of the Puerto Rican people. Then, accompanied by the fast-paced beat of their percussion ensemble, Teatro Ostra Cosfa will immerse the audience in a rhythmic celebration of African/Caribbean folk dancing and singing. The troupe will perform such colorful dances as la bomba and la punta, and the audience will be invited to chant and clap along with the performers.

Celebrate Puerto Rican Discovery Day with Teatro Ostra Cosfa

Habana Melodies, December 10 and 11. Participating, Donor and Contributing Members are entitled to four tickets at the Member’s price of $4.00. Associate Members are entitled to one. All other tickets are $5.00.

<table>
<thead>
<tr>
<th>Number of Members’ tickets</th>
<th>X$4.00</th>
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<tbody>
<tr>
<td>Number of non-Member tickets</td>
<td>X$5.00</td>
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<tr>
<td>Total amount enclosed:</td>
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Name:
Address:
City:
State:
Zip:
Membership category:
Daytime Phone:

Make checks payable to the American Museum of Natural History and mail to a self-addressed, stamped envelope to: Caribbean Programs, Department of Education, American Museum of Natural History, Central Park West at 79th Street, New York, NY, 10024.
Members' Tour of the Month
The Art of Francis Lee Jaques

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Audubon, Fuertes, and Jaques

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A Natural Fusion

Wednesday, November 9, 7:30 p.m. Kaufmann Theater. Free.

The sounds of chirping crickets, rustling leaves, human heartbeat, and singing birds will blend with the musical styles of East and West when Mitchell Korn performs compositions from his new album, "The Natural Sciences." The compositions reflect Mr. Korn's view of nature as a musical instrument and his interest in the color, texture, and environment of sound.

Mr. Korn's music is a unique combination of such diverse elements as Delta blues, the haunting melodies and rhythmic patterns of Eastern music, the sensuality of American jazz, the clarity and harmony of classical music. He has made use of electronic sounds and tape recording from nature in many of his pieces, often combining them with unusual percussion instruments.

Mr. Korn has performed in concert halls throughout the United States. He has studied with such notable musicians as jazz trombonist Roswell Rudd and Indian composer and sitarist Ravi Shankar. Sponsored by the Department of Education, the program is free to all Museum visitors. For more information, please call the Education Department at (212) 873-1300 ext. 559.
Special Exhibitions


African Textiles. December 4 through January 31. The first comprehensive display of the entire production of African textiles to be displayed in the United States. Textiles from the British Museum represent the rich diversity of textile uses, such as armor for horses, clothing for the dead, masks, puppets, and clothing.

Francis Lee Jaques: Artist-Naturalist. Through January 8, 1984. Akeley Gallery. This exhibit features Jaques' pioneering work in the field of wildlife habitat design. This master naturalist's creative genius translated the essence of a living environment into two-dimensional murals.

December at the Museum

Indira Month. Leonhardt People's Center. Weekdays: 11:00 to 3:00 p.m. Saturdays: 11:00 to 4:30 p.m. Members' Origami Workshop. December 11, 11:00 to 3:30 p.m. Reservations required.

The Cotton Club Era. Weekdays, December 7 and 14, 7:00 p.m.

Cockroaches. Thursday, December 15, 7:30 p.m.

Anthology of Cuban Music. Saturday and Sunday, December 10 and 11 at 3:00 p.m.

Bloomington Concert. Sunday, December 18 at 3:00 p.m.

Planetarium Events

Cosmic Mysteries. Through November 20. Are UFOs visitors from the stars? Could the extinction of the dinosaurs millions of years ago be related to a cosmic connection? What will be the ultimate fate of our universe? Cosmic Mysteries explores these and other fascinating questions, the answers to which have been left to our imagination. Sky show times: Weekdays: 1:30 and 3:30 p.m. Saturday: 11:00 a.m. and 1:00 to 5:00 p.m. Sunday: hourly from 1:00 to 4:30 p.m.

Naturemax Information

The Naturemax Theater is equipped with a movie screen four stories tall and sixty feet wide, as well as an extraordinary sound system and a projector for showing IMAX films, made ten times larger than ordinary movies. The theater is located off the 77th Street Lobby near the Great Canoe. Schedules and films may vary, so call the Naturemax Register for current information before visiting the theater: (212) 496-0600. Currently the films are:

To Fly: a history of American aviation complete with dramatic film of the Wright brothers, Ballooning over Niagara Falls, and the Wright brothers flying an early biplane in Hawaii.

Living Planet: an overview of the evolution of life from a drop of water to the latest technological achievements that gave rise to New York City and space exploration.

Museum Information

Museum Hours. Monday, Tuesday, Thursday, Sunday: 10:00 a.m. to 5:45 p.m. Wednesday, Friday, and Saturday: 10:00 a.m. to 9:00 p.m.

Food Express Hours. Daily from 11:00 a.m. to 4:45 p.m.

American Museum Restaurant. Luncheon is served daily from 11:00 a.m. to 5:00 p.m. Dinner is served Wednesday, Friday, and Saturday from 5:30 to 7:30 p.m. The American Museum Restaurant is located near the Food Express in the basement. Members receive a 10% discount.

Museum Parking Lot. Located on 81st Street. Open Monday through Friday: 9:30 a.m. to 9:30 p.m. Monday through Sunday: 9:30 a.m. to 12:30 p.m. Rates are $6.00 for cars, $7.00 for buses. Parking is limited.

Lion's Lair. Relax and enjoy refreshments with the animals in one of the halls. Weekdays: 3:30-7:00 p.m. Sundays and holidays: noon-5:00 p.m.

Southwest Research Station. Members have visiting privileges at this outpost. If you are planning a visit of less than one week, write ahead for details. Southwest Research Station, Box 208, Monument, Arizona, 85332, or call (602) 558-2562. For visits of more than one week, specific accommodations should be made to the Deputy Director of Research, American Museum of Natural History, Central Park West at 79th Street, New York, N.Y. 10024. Call (212) 873-1300.

Programs and Tours

Museum Highlights Tour. For more information call the Museum at (212) 769-5700. Monday through Thursday, 10:00 a.m. to 5:00 p.m.

Special Exhibitions and Tours. Every two weeks a new Museum visitor or the veteran Museum-goer, the Museum Highlights Tours offer fascinating glimpses into the history and exhibits of the Museum's most popular halls. The tours leave regularly from the second-floor Information Desk. If you wish to join a free tour, please ask at the information desks for specific tour times.

Discovery Tours. The Museum offers exciting and unusual tours of exotic lands and144 countries, including the Museum scientists, archeologists, anthropologists, biologists, and naturalists. For more information about tours and itineraries, write to Discovery Tours at the Museum or call 873-1040.

Natural Science Center. The Center introduces young people to the varied wildlife, plants, and rocks of New York City. Some exhibits include live animals. The Center is open Tuesday through Saturday, from 10:30 a.m. to 12:30 p.m., and 1:30 p.m. to 4:30 p.m.

Theater. The classroom is open Sundays and Mondays. People Center. Ethnic programs featuring dance, music, films, lectures, and workshops are presented on weekends from 1:00 to 4:30 p.m.

Video Room. Children are delighted to touch and handle natural history objects in the imaginative "discovery boxes." Starting at 11:45 a.m., three free tickets are distributed on a first-come, first-served basis at the first-floor Information Desk. The room is open only on weekends from 12:00 to 4:30 p.m.

Native American Film Festival

Saturday, November 12 and Sunday, November 13, 11:00 a.m. to 5:00 p.m. Kaufmann Theater. Free.

A weekend-long special documentary and discussion program about Native peoples throughout the Americas will be shown at the American Museum of Natural History as part of the Museum of the American Indian's annual Native American Film and Video Festival. Focusing on both traditional and contemporary concerns, the films use a variety of treatments and represent many viewpoints and voices. Ethnographic films from a recent project of Mexico's Instituto Nacional Indigenista portray aspects of Native communities in detail. Tule Technology, produced by the Smithsonian Institution's Department ofFolklore, documents traditional techniques for using the tree to make houses, decoys and boats. Among the topics explored in the weekend's programs is spirituality in Native American life. Has Spirit Singed by Joseph Kawasy documents a sacred peace ceremony held by the Chiricahua Apache. Presented from the viewpoint of an elder, the sponsor of the ceremony. In The Great Spirit Within the Hole, by Chris Spotted Eagle, views about Native Americans in prison demonstrate the impact of traditional spiritual practices. Peter Raymont's Arctic Spirits looks at the rise of Christian fundamentalism among Inuit people, examining both missionary work and the relation of fundamentalism to shamansitic traditions.

The impact of the exploitation of natural resources on the survival of Native peoples is the subject of The Probable Passing of Elk Creek. The film documents the change and disruption brought about by the construction of a dam on the Grandtide Reservation Four Corners: A National Sacrifice Area? investigates the energy resources issue in the American Southwest through the various viewpoints of industry, government and Native American communities of the area.

Sponsored by the Museum's Department of Education in cooperation with the Museum of the American Indian, the festival is free to all Museum visitors. Seating is on a first-come, first-served basis so members are advised to arrive early to avoid deep disappointment. The festival will continue on the weekend of November 19 and 20, with video screenings at the American Indian Community House. For a complete schedule call the Museum of the American Indian at 212-258-0940 or the Museum's Department of Education at 212-873-1300 ext. 559.
The Spirit of Christmas Past
The Hayden Planetarium Through January 2, 1984

What was the Star of Bethlehem? Who put up the first Christmas tree? Why do couples kiss under the mistletoe? These and other questions will be explored in the Planetarium's new sky show "The Spirit of Christmas." The show celebrates the sky and spirit of the holiday season. With the help of the Planetarium's Zeiss projector and new automation computers, the show will take you back to distant times and far-off lands to discover the origins of the holiday traditions we cherish today. You will learn why the celebration of Christmas coincides with an ancient pagan rite and how a kindly fourth century bishop from Asia Minor may be considered the first Santa Claus. The show will allow you to observe the sky on the night Christ was born. Astronomers will try to unravel the mystery of the Guiding Star. Was it a comet, a supernova or an awesome miracle? Songs, carols and poems of the holidays will be interspersed throughout the program. One moment you will sit beneath a brilliant winter sky surrounded by snow-coated evergreens, and in the next a rendition of "Twas the Night Before Christmas" will begin, as Santa flies into the Sky Theater silhouetted by the light of the moon. The show concludes with a beautiful retelling of the Christmas story.

Ice Age People
Over ten thousand years ago bands of Paleo-Indians survived on this continent in a cold and dangerous time. The artifacts and sites they left behind tell us of their skills, their strategies, and their journeys.

Year in Review
Ever-changing and ever-growing, the Museum has come a long way in the past year. Highlights of both public and behind-the-scenes projects are included in this issue.

Fortuitous Folds
An origami renaissance heralds holiday cheer this winter in the Roosevelt Rotunda. This year's tree features over 150 kinds of origami figures, plant and animal, extinct and extant.

Myths and Legends
Through myth, people of all times have sought to understand and relate to the natural world, and to communicate the values and "truths" of their times. Join Joseph Campbell for a discussion of early mythology, oral tradition and spiritual awakening.

For Participating, Donor, and Contributing Members of the American Museum of Natural History
Vol. 8, No. 10 December 1983
The Beats Heard 'Round the World
Sunday, December 4, 2:00 p.m.
Kaufmann Theater, Free

The tradition of solo percussion will be the theme of a lecture performance by musician and composer Jerome Cooper, who specializes in percussion instruments from around the world. Mr. Cooper’s music is a combination of jazz and traditional music forms from many countries. He uses drums and the instruments which traditionally accompany them, including the cimbra from Honduras and the African batutu, to create the unique sounds and patterns in his solo performances. He will discuss the various instruments during the program, and talk about his personal philosophy of music. Mr. Cooper is a founding member of the Revolutionary Ensemble and has played with such leading jazz musicians as Rahsaan Roland Kirk, Steve Lacy, and Sonny Rollins. He has performed throughout the United States, Europe, and Africa. Mr. Cooper’s complex rhythmic improvisations have been compared to the music of modern composers such as Steve Reich and Phillip Glass, and have much in common with West African drumming and North African Sult music.

Sponsored by the African-American program of the Museum’s Department of Education, the performance is free to all Museum visitors. Seating will be on a first-come, first-served basis, and members are advised to arrive early to avoid disappointment. For further information, please call (212) 875-1900, ext. 514.

Jerome Cooper will play these instruments from around the world.

The Stars of Harlem Nights
Wednesday, December 7, 7:00 p.m.
Kaufmann Theater, Free

During the twenties Harlem became a romantic, exotic escape where the wealthy and influential from midtown Manhattan would go for a night out. They went to hear ragtime, blues, and jazz music, and to enjoy the accompanying stage shows. The centerpiece of uptown entertainment was the gangster-owned Cotton Club at 142nd Street and Lenox Avenue. Fast-paced, wildly staged reviews with a chorus line of beautiful women, were the specialty of the Club. The show employed talented songwriters like Dorothy Fields and Jimmy McHugh. Some of the figures in the reviews were Ethel Water, Cora LaRedd, Cab Calloway and the Mills Brothers. Using archival films and original recordings, Ernest R. Smith and Howard E. Johnson will take a look at the Cotton Club and the stars who played there. The program will include films featuring Duke Ellington and the Washingtonians, the legendary dancer Snake Hips Tucker, and the great tap dancer Bill "Biggles" Robinson.

Ernest R. Smith is co-author of The Black Book, a history of black culture in the United States. He has been collecting jazz and jazz dance films since 1957.

Howard E. Johnson once sang and danced with the Duke Ellington review at the Cotton Club. He collects films and recordings concerning the sociology of black studies. This program is presented by the African-American Program of the Department of Education, and is free to all Museum visitors. Seating will be on a first-come, first-served basis, and members are advised to arrive early to avoid disappointment. For further information, please call (212) 875-1300, ext. 514.

The Cotton Club — "The place to go" in the 1920's.

Members' Memo
To The Many Who Deserve Our Thanks

Many people are unaware that the American Museum of Natural History in a private institution. Its incorporation followed a special act of the New York State Legislature in 1869. Shortly afterwards, the Museum launched a fund drive which raised $50,000 to purchase natural history specimens. The first annual report at the end of 1869 listed 56 donors with names like Morgan, Roosevelt, and Colgate, and an annual budget of $43,000. The Museum has come a long way since then. Today our budget is over 28 million dollars and we are supported by a broad base of contributors which includes government agencies, corporations, foundations, and almost a half million members. Most donations go towards the general operating costs of the Museum. General operating support covers everything from exhibit maintenance to the salaries of most of the people who work here. Since their names are not attached to specific halls or projects, those whose donations support general operations are often overlooked by the general public. Yet without their donations, the Museum could not survive as a viable institution.

Over the past few years, we have tried to diversify our support as much as possible. In this way, if funds are cut back from any one source we still have a number of others on which to depend. Although government funding has been reduced in recent years, government organizations are still among our largest contributors. We are especially grateful to the City of New York, which not only owns our buildings but last year provided almost four and a half million dollars for their operation and maintenance. The New York State Council on the Arts gave us $603,500 to fund general operations, and also funded projects such as a mineral sciences catalogue and textile conservation. Our corporate campaign raised nearly a million dollars from 278 corporations, with Chemical Bank and Amanda Hess leading in the corporate field. The Museum also solicits many funds that are targeted to specific programs. The National Science Foundation has given almost a quarter of a million dollars for the expansion and renovation of the Paleontology storage collections. Mobil has contributed funds to keep Museum admission free on Friday and Saturday evenings. The Leonard Family Foundations and the Charles A. Dana Foundation have provided support for a modernized Education Wing, and the Vincent Astor Foundation has given a million dollars for improvements in visitors services.

Membership has also benefited from special grants in recent years. The Bodman Foundation and the Union Pacific Foundation donated funds for us to develop new membership recruitment campaigns, and the National Endowment for the Arts has given the Museum a challenge grant designed to stimulate over a million dollars in our membership and fundraising efforts.

It is impossible to list all our benefactors in this short memo, but if you would like to find out more about who has given what to the Museum, I urge you to ask for our annual report. Just write a note to the Membership Office or call (212) 875-1327 and we will be glad to mail you a copy. I also suggest that you look at the Annual Highlights in the center of this issue. It will give you a behind-the-scenes view of what our scientists have been doing for the past year.

I would like to end this memo with a huge thank you to all the Members who have supported us throughout the year and to all the scientists, educators, volunteers and support staff who have contributed their time and effort to the membership program. Happy holidays to everyone!

Harry A. Schles
Havana Serenade
Saturday and Sunday, December 10 and 11, 3:00 p.m. Kaufman Theater $4.00 for Members. $5.00 for non-members

Towards the end of the 17th Century, a special kind of song was heard in the Streets of Santiago de Cuba. It was named "La Ma Teodora" after a popular character who used to sing in the town. Following the lead of this early singer, Cubans used the familiar forms of traditional Spanish music and African rhythms to create a musical expression all their own. In Havana: Antología.

The Way of the Animal Powers
Wednesday, December 14, 7:30 p.m., Main Auditorium, Free

The myths and legends passed down to us from ancient times have served as vehicles to explain phenomena of nature, the origin of man, or the customs, institutions and religious rites of a people. Through myth the human race has attempted to express concepts of truth, and to pass on important stories and events to future generations.

In this lecture, Joseph Campbell will discuss the earliest oral traditions as he reviews the myths of the primitive hunters and gatherers and the Paleolithic Great Hunt. One of the world's leading authorities on mythology, Professor Campbell has just completed the first volume of his Historical Atlas of World Mythology, entitled The Way of the Animal Powers. The hook traces the imprints left behind by early peoples, analyzes their art and artifacts and details their artistic work in caves and on bits of stone and bone. All of this evidence points to a spiritual awakening in these early human beings, an awareness that is the fundamental difference between animals and people.

Joseph Campbell is Professor Emeritus at Stanford University. He has lectured extensively throughout the United States and abroad. His books, among the classics in mythology and literature, include The Hero with a Thousand Faces, The Mythic Image, and The Flight of the Wild Gander. He lives in New York with his wife, the dancer and choreographer Jean Erdman.

This program, sponsored by the Education Department, is free to all Museum visitors. Seating will be on a first-come, first-served basis. Members are advised to arrive early to avoid disappointment. For more information, please call (212) 873-1300, ext. 559.

The Perpetual Guests
Thursday, December 15, 7:30 p.m., Auditorium Free and open only to Members

Guests who's coming to dinner? Although they probably won't appear until the lights are out and you've gone to bed, these house guests are familiar to most New Yorkers. They'll hitchhike unnoticed in grocery bags and pants cuffs, or simply wander in, uninvited, to find a warm place to call home—most often to the kitchen or bathroom. They're among an elite group of New Yorkers that has something in common with the Founding Fathers, since they arrived here as stowaways on the ships that brought the first settlers from Europe.

Dr. Betty L. Faber invites Members and their guests (not the perpetual kind) to join her for an evening lecture about her research into the behavior of cockroaches. Dr. Faber, a Research Associate in the Department of Entomology, has been studying the American cockroach in her greenhouse laboratory for the past eight years. Working into the wee hours of the morning she has recorded the lifestyles of hundreds of individuals by observing their eating habits, reproductive cycles, and behavior through a special infrared camera.

Dr. Faber has left her services to the New York Transit Authority, which once came to the Museum for help in eliminating the many roaches ridind around on city buses. Using slides, she will illustrate the various kinds of roaches that inhabit New York, including the German, the Oriental, and the Television roach.

Members are invited to come early when Dr. Faber and her assistants will be on hand to discuss some interesting displays set up outside the Auditorium. These will include some of the more unusual cockroaches from around the world, cockroach predators, and examples of different cockroach behaviors.

Members' Tour of the Month
Northwest Coast Indians
From 1897 through 1902, the Jesup Expedition of the American Museum collected artifacts and made studies of the native peoples of the Northwest coast region, forming the basis of much of our knowledge of their cultures. Members are invited to join scholars from the Museum's Highlights Tour program for a special tour of the Hall of Northwest Coast Indians, as they explain more about these tribes of hunters and gatherers. The fifty-five foot Haida ceremonial canoe will be featured, and guides will explain how it was hauled out from a nearby cove. Tour participants will see elaborate basketry and soapstone carving, horned fowl decorated with pieces of stone, and carved masks, to name just a few. This tour will offer Members an in-depth look at the largest collection of this material in the world. Please use the attached coupon to register.
Annual Highlights

Last year almost 2.5 million people visited the Museum. A recently published survey indicated that more than half of school-visit students left the Museum with an increased interest in nature and science, and that more than half of the visitors said they came to the Museum to explore new temporary exhibitions such as African Textiles and Star Gods of the Americas. Thousands came for our educational programs. The Sixth Annual Margaret Mead Film Festival featured more than 40 anthropological films, half of which were New York or World premieres. Dr. Donald Rothberg spoke on human adaptations to the 20th Century, as the Museum reinaugurated the Man and Nature Lecture series, and 1,000 anthropologists attended for a weekend-long celebration of the centennial anniversary of the American Anthropological Association.

Those who visited us saw an ever-changing and ever-expanding Museum. Food services have improved with the introduction of the American Museum Restaurant. The Museum celebrated the opening of the Kaufmann and Linder Theaters, which are part of the new Downs Education Wing, and also opened a new temporary exhibition gallery adjoining the hall of Northwest Coast Indians. Construction continued on a new balcony for the Museum Shop, the Margaret Mead Hall of Pacific Peoples and the Hall of Peoples of South America. The Hayden Planetarium received four automation computers, which enable the sky shows to make possible many exciting new special effects.

Exhibitions and programs are just one aspect of the Museum's work. At the heart of the Museum are the collections and the scientists who work with them. The Museum is one of the world's great centers for collections and research, with more than 250 scientists and associates pursuing work in Museum laboratories and in the field so that our collections and the working of the World can be better understood. Other staff members are devoting their time and efforts to preserving the collections for future generations. Today we are bringing the collections more accessible to the thousands of scientists from around the world who visit us or request loans of our material every year. This week-long staff retreat makes possible all of our programs and exhibitions. In this year in review, we would like to give you a sampling of the many other museum activities of the past year.

Creature Features

Humans share the earth with millions of other creatures — over a million species in the class insects alone. Each species has its own unique survival code, ancestry, and relationship through the ages with the planet that is our home. Creatures of every continent and time have captured the imagination and scientific expertise of Museum staff members. The examples below represent a fraction of the studies and discoveries presently underway.

• Woodpeckers of the World, a monograph containing descriptions and illustrations of all 198 species of woodpeckers, was published last year. This beautiful volume is the culmination of nearly 20 years of research by Dr. Lester Short (Ornithology). He has observed and studied most of these colorful, conspicuous birds, which dwell on every major land mass except Australia. The text emphasizes behavior and taxonomy, while the plates, by painter George Sandstrom, embody a rare mixture of scientific realism and artistic excellence.

• One shark which no swimmer or sea-farer need fear is the hydroidos shark, Hydiodos basanus, which has been a rare sight at the surface, and is the most aggressive of all the sharks. It is a large, powerful, and extremely voracious, at least 250 miles across. Dr. George G. Maisey (Vertebrate Paleontology) has written a work on the biology, anatomy, and relationships of all the sharks. Although sharks do not have teeth made of bone, they do possess elongated cartilage which has been studied extensively. If hydroidos and related sharks are as closely related to modern sharks as Dr. Maisey believes, the ancestors of the modern sharks may date back 250 million years.

• Polychaete annelida is a large, circumpolar sea worm. Because it is a fish — only from before dawn to shortly after sunset, it is seldom seen. Its nests have never been found until recently, when Dr. Ruth Rosen, Resident Director of the Southwest Research Station, chanced upon a group of these fish near his home and led Dr. J. G. Rosen, Jr. (Entomology) to their ground nest. Since then, Dr. Rosen has described a paper on the bees' behavior and foraging activities. Although they nest in a group, they are solitary in that they have no worker caste. There is no nest or waterproof chambers in which eggs float atop nectar. The newly born larvae literally swim in its first meals.

• Aplysia, the hemaphroditic sea hare, has definite social preferences. This gastropod, captured in the warm waters of Puerto Rico and brought to the Museum for study, does not respond to each of its peers with the same eagerness for contact. Dr. Ethel Tobach (Mammalogy) is working to uncover exactly what qualities these animals sense in one another, which lead to social and sexual reactions which range from choosing one Aplysia over another as a mate, to pushing an unwanted individual out of its cage.

• Dr. Cheryl Harding (Ornithology) continues to uncover evidence that female hormones play an important role in the social and sexual behavior of the male zebra finch. For instance, extremely aggressive behavior in males is impossible without the female hormones involved. Male courtship behavior, of which singing is an important component, is dependent upon both male and female hormones. Male finches which have higher concentrations of certain female hormones than females do!

• The strong-electric catfish uses electrical pulses to stun and kill its prey. We have seen strange fishes such as the electric eel. However, produce electric pulses too weak to harm other organisms. What then is the significance of these reactions? Dr. Peter Miller (Ichthyology) is showing that for the electric eel there are used for navigation, as well as social communication, expressing territoriality, species recognition, and possibly sexual attraction.

Of Human Interest

Humans are the earth's rich natural history, and Museum work reflects this. The Department of Anthropology by definition (anthropology means the study of man) is chiefly concerned with the human condition, and its staff members work diligently both at home and abroad to enlarge our view of human life and cultures.

Anthropology is not alone in its pursuits — other disciplines as well contribute work which relates directly to the quality and understanding of human life.

• Dr. Stanley and Ruth Freedman's (Anthropology) trip visited the Indian Village of Shawnigan, 12 miles from Delhi, in 1958. Their most recent visit took place in 1978. Subsequent work has focused upon the many changes in the area where they accompanied modernization. Today tractors have replaced bullocks, making it possible to use village land more efficiently. Tubile wells have largely replaced canal irrigation. These wells provide water on demand, promoting greater crop variety.

Educational levels have risen, and an increasing number of villagers supplement agricultural income with urban employment. Men and women already satisfied with their family's size often choose the most foolproof of all birth control methods — sterilization. These changes in dramatic and far-reaching. Yet they occur in the context of traditions and family ties that endure, largely unchanged, through the generations.

• Dr. George E. Harlow (Mineral Sciences) is collaborating with colleagues here and at the Mount St. Helens Volcano to study mineralogical properties of certain asbestos minerals to better understand their relationship with disease. Contrary to popular belief, asbestos is not one product, but may be any naturally occurring mineral fiber having the properties of flexibility, strength, and resistance to heat and chemical reactions. Does the size and shape of an asbestos particle determine whether, after being inspired, it will interact with living tissue, leading to diseases such as asbestosis or mesothelioma? Does the area where the mineral is mined make a difference? These and other questions are under investigation with the help of sophisticated technological techniques and instruments such as x-ray diffraction, which gives information concerning the crystalline structure of a mineral, and the electron microscope, which can provide a chemical analysis of a sample within 30 seconds.

• A Korean woman takes her dowry to her husband's family when she marries, becoming part of their economic unit. Because of this, a Korean daughter is considered an economic liability. Will this change as other aspects of life change for Korean women? Dr. Laurell Kendall (Anthropology) is currently trying to answer this question, and to understand more about Korean marriage and marriage ceremonies. Among her findings so far are that marriages have become more public and, even for those who live in the countryside, tend more often to be in urban settings than they once were. Women continue to achieve more earning power prior to marriage, although they seldom work once they have married. Dr. Kendall has recently refined a questionnaire to be used on subsequent visits to Korea. One of the target groups she will study are women wage-earners who have migrated from their provincial homes to the capital city.

• Blood flukes are parasitic flatworms which affect fish, reptiles, birds and mammals. The 1983 Annual Report of the World Health Organization estimated that 200 million people, mostly in tropical climates, are infected with blood-flukes. One of the most serious effects of their presence in the human body is the extreme enlargement of the spleen and liver, where they release toxic metabolic products. The blood-flukes (Heterophyes) has studied flukes extensively, adding a great deal to our knowledge of their evolution and reproduction. He now has a special interest in parasites of parasites of parasites to those of warm blooded creatures. The more primitive worms are helminthophiles and live in the arteries, while the mammalian and avian parasites have separate sexes which dwell together in the veins. The male is wrapped around the female. The reasons for these differences are currently under investigation.
Of Local Interest

While many Museum scientists journey to far lands and waters to further our knowledge of Earth and her inhabitants, others concentrate on home territory. We tend to forget sometimes that although highly settled and industrialized, states such as New York and New Jersey have a rich natural history.

• Although New Jersey is one of the smallest and most densely populated states, it contains approximately one fourth of all mammalian species found in the United States. Dr. Richard G. Van Gelder (Mammalogy) is currently compiling an annotated checklist of New Jersey mammals, the first time in 75 years such a list has been undertaken. His work encompasses both mammals that have lived in the state in past years and those currently inhabiting it. One welcome surprise is that after being considered extinct in 1904, the white-tailed deer of New Jersey now exceed 125,000 in number. Black bear and bobcat still inhabit the state's northern forests.

• Dr. Lavett Smith (Ichthyology) has completed a book-length manuscript on the inland fishes of New York State. He continues to study fishes of the Genesee River system, which flows into Lake Ontario at Rochester. One bit of good news is that several rare fishes collected forty to fifty years ago are still breeding, after approximately 30 generations in New York State waters. Dr. Smith is also continuing a study of the cichlids of local fish species. The cichlid is an anterior organ which tells a fish which way is up. It forms at an early embryonic stage. Cockerin bands that form within it approximately each day of a young fish's life help the creature determine its age and the waters it has journeyed through. This study is providing important clues about the spawning patterns of these fishes.

• Michael W. Klemens (Herpetology) participated in a study of Central Park's wildlife. Results so far indicate there are breeding populations of both bullfrogs and snapping turtles. The breeding stages of two other turtle species is still under study. Dr. Klemens found unusual color patterns on many of the bullfrogs, which might be the result of their geographical separation from other bullfrog populations. The study was done at the request of the Central Park Conservancy. Dr. Klemens is also working with the Connecticut Nature Conservancy to survey the herpetofauna of that state.

Conservation

Preservation of the items on public exhibition and in the vast scientific collections is a fundamental obligation of the Museum. To this end, conservation efforts have been expanded to ensure the excellence and availability of our collections for future generations of researchers, students, and the general public.

• The Department of Mammalogy has restored and reorganized many of the skulls and skeletons in its extensive collection, providing safer storage and better access. A new room known as the Equus or horse storage area has been created, containing ecological treasures such as fourteen cleaned and reconditioned horse skeletons mounted by Chubb. Among these is the Horse and Man, the model for the Museum's logo. Many old skin specimens are being removed from carbonic solution to be cleaned, relabeled, and transferred to newly prepared tanks with isopropyl alcohol.

• Thanks to a National Science Foundation grant renewal, the Department of Vertebrate Paleontology was able to relocate many dinosaur specimens to new storage areas. These fossils are now being repaired, and can be made available for research for the first time in decades.

• This year some oilly, crusty patches were noticed on various wood feed dishes in the Hall of Northwest Coast Indians. The objects were cleaned and put back into display after the cause of the problem was found. Fish oils were leaching out of the wood and forming crystals on the surface. This is just one example of the work the conservation division of the Department of Anthropology is doing to find out more about the interaction between objects of various materials and the environmental conditions within their display cases.

Merger and Accessions

Taking care of the collections we already have is important, but does not suffice if the Museum is to keep growing as an institution. Our viability both as a research and public-oriented institution depends on our ability to keep changing, learning more, and sharing new treasures with our many visitors. Accessions received from both individuals and institutions are therefore of paramount importance in helping the Museum reach its goals.

• A recent major event for the Museum was an agreement in principle to merge the holdings of the Museum of the American Indian into a new home here at the American Museum of Natural History. Although important details are still being worked out, Thomas D. Nicholson, our director, is confident that the merger will take place. The two collections combined will undoubtedly constitute the finest collection of Native American material in the world, a priceless resource for scholars and viewers alike. Our museum's exceptional collections of early Eskimo artifacts and Northwest Coast Indian material will continue to be here in the American Indian's prestigious holdings of Southwest and Plains Indian material, Maya jade, and Aztec mosaics.

• The Department of Vertebrate Paleontology accessioned two important gifts. The first consisted of 350 fossil fish specimens from Brazil, from Mr. Herbert Axolotl. The specimens are of a very high quality from both a scientific and aesthetic viewpoint. Among them are examples of rare taxa. The second gift was a fossil stingray from the Greiger Formation, Way of the Sun. This fossil is a holotype of a new species — representing the morphological characteristics of the species for the comparison of new finds.

• A spectacular platinum necklace, set with 185 baguette diamonds, and its companion choker, containing 47 round, full cut diamonds, were donated to the Department of Mineral Sciences by Mrs. Zoe B. Lasiter. Other important mineral specimens received by the Museum included the Amazonite and smoky quartz crystal cluster from Colorado donated by Allan Kaplan, and 2407 mineral specimens from the Western United States donated by Charles B. Schwartz.

Technology

Whether we fear it or love it, technology is no doubt here to stay (for at least as long as we use it). Every Museum department makes use in some way of equipment which has been developed during the technological boom of recent decades. One of the problems our fast-moving technology presents is that an instrument which seems the epitome of efficiency one year is obsolete by the new and better one the following year. This rapid obsolescence, plus the immense cost of many modern instruments presents a challenge to any modern research institution — a challenge the Museum does its best to meet. The following are a few examples of how some of the Museum's equipment is being used to add to human knowledge.

• Dr. Norman D. Newell (Invertebrates) is making use of an in-house technology such as the scanning electron microscope (SEM). The SEM is a component system in his study of fossils, which provide clues concerning a biological end that occurred approximately 245 million years ago. The SEM has a theoretical magnification potential of up to 300,000 X, but a more practical one of 20,000 X, above which the quality of the image may suffer. Although Dr. Newell's particular samples require no more than 1,000 X magnification, this still exceeds the capability of the "traditional" optical microscope. Among the Wang computer's many uses is the analysis of proportion and shape variations (biometrics) of the fossil samples. Using the data fed into it, the computer can quickly compare and classify the fossil samples, helping to document the bioclast's evolution and extinction. Based on this work, Dr. Newell believes that extinction during the Permian-Triassic crisis was more gradual than previously thought.

• Mr. Sidney Horenstein (Invertebrates) uses an SWT computer that is housed up in City University's computer system. One of its major functions is the storage of information about fossil invertebrate specimens. For example, if a researcher requests information on a particular group of mites, the computer can provide a comprehensive list, including genus, species, which has described the various specimens, and references pertaining to them. One of the programs of great importance is the Statistical Analysis System (SAS). Measurements of specimens can be statistically analyzed with this system. For instance, you might want to plot the diameters versus the widths of many fossils of a known species. Later the measurements of an unknown fossil can be fed into the computer, to see if the resulting point falls upon the same graphic line. This method in itself is not new, but the speed at which a computer can do it certainly is.

• Both the Ornithology and Herpetology departments make extensive use of the sonograph, a machine designed to interpret sounds. The taped call of a bird or frog is fed into a computer, which captures 2.4 seconds of sound on a rotating disk. It interprets this sound, printing out a graph with frequency on the y-axis and time on the horizontal axis. The intensity of the sound is reflected by the darkness of the traces. Spectrographic printouts are used to interpret such things as the mating calls of various frog species or geographical variation among populations of one avian species. A concept often used in the analysis is the Tarsus, which is the key to identification or classification when morphology alone does not suffice.
Fossils of Fifth Avenue
Sunday, January 15, 10:30 a.m. and 1:00 p.m.
$5.00 and open only to Members

This winter, Sidney Horenstein will repeat one of his most popular Members' tours. Fossils of Fifth Avenue. The tour begins at Rockefeller Plaza where Members will view 450-million-year-old ancestors of the chambered nautiluses and will conclude with a look at the 100-million-year-old fossils embedded in the walls of Tiffany's. Members will discover that Fifth Avenue is a cornucopia of fossils and building stones from around the world. Walking up the avenue, participants will see fossilized clams from Italy, pieces of 350-million-year-old coral reefs from Missouri, and extinct chambered animals from France. A new addition to the tour will be the Italian building stones used to construct the Trump Tower. Mr. Horenstein will talk about how the different building stones were formed, how they were quarried, and the various roles they have played in the earth's history.

The tour will be held snow or shine. Please use the adjacent coupon to register.

Fossils of Fifth Avenue, Sunday, January 15.
Please indicate a first and second choice if possible.
Sunday, January 15 at 10:30 a.m.
Sunday, January 15 at 1:00 p.m.

Number of people: I have enclosed my check for
$5.00 per person

Name:

Address:

City: State: Zip:

Daytime Phone:

Membership category:

Make check payable to the American Museum of Natural History and mail to
Fossils of Fifth Avenue, Membership Office, American Museum of Natural History, Central Park West at 79th Street, New York, NY, 10024.

Deck The Tree With Folded Paper
November 21 through January 8.
Roosevelt Rotunda

Alice Gray has two consuming passions in life—snowflakes and origami. When she began working in the Museum's Department of Entomology over forty years ago, she started a collection of snowflakes. With the aid of a Japanese book on origami, she bought it because it had a picture of an insect's cover. Following the book's diagrams, Alice taught herself to fold paper in a multitude of patterns. She made origami snowflakes and used them to decorate a small Christmas tree in her office.

A dozen years ago, Alice began thinking it would be nice to set up a small holiday tree near the Information Desk in the Roosevelt Rotunda, and decorate it with origami animals, insects, and birds. She mentioned this to the chairman of the Exhibition Committee, and soon led a few other animals as examples of what would go on the tree. She soon received a note from the Committee, saying it was a great idea and they would like to erect a twenty-five foot tree. Not feeling ragged-fingered enough to fold all the required decorations by herself, Alice then turned to Lillian Oppenheimer, her friends at the Origami Center of America, as well as Museum employees and volunteers for help. Ambiguous to share their art with a wider public, they spent countless hours preparing natural history ornaments for the Museum's first tree.

In the past eleven years, over 100,000 hours of time has been donated by volunteers to make the Holiday tree possible. They are a diverse group, of all ages and walks of life, whose individual efforts combine to make something beautiful. The tree has grown more complex with each passing year, as new papercrafts have been enlisted to help.

This year's tree exhibits over 150 different kinds of origami figures, from arctic foxes to zebras. The dinosaurs are a perennial favorite—there are now a dozen or more on the tree. The thirty-foot high mobile above the tree has 747 stars, and takes over five hours to hang. Each year it must be carefully disassembled, coded by section and number, and stored in boxes when the tree comes down. New figures are invented by folders each year and added to the tree.

Throughout the holidays, a staff of forty volunteers is on hand to offer free origami lessons to visitors at the origami table adjacent to the tree.

It’s quite an undertaking, but amazingly the entire budget for the ornaments and around the tree is under $500.00. Much of the enthusiasm for origami at the Museum has been generated by Alice Gray and her volunteers. Michael Shull, who has been practicing origami for 25 years. It was through their efforts and the generosity of the Museum Trustees that The Friends of The Origami Center of America, inspired by Mrs. Lillian Oppenheimer, received space for a new Home Office at the Museum this year. The library and origami collection of The Friends will be housed at the Museum for at least the next five years. In total, thousands of origami pieces will be cataloged for study and exhibition, including rare ones folded by masters of the art.

Hundrads of origami pieces decorate this holiday tree.

Ice Age Hunters
Wednesday, January 11. 7:30 p.m. Main Auditorium Members, $12.00, non-members, $15.00

Over ten thousand years ago at the close of the Ice Age, bands of Paleo-Indians roamed the frozen North American continent. Armed with stone-tipped spears and crude tools, hunting bands pit-
January at the Museum

Journey Across Three Continents, Wednesdays, January 4 and 18, and Thursday, January 12, at 7:30 p.m.

Ice Age Hunters, Symposium, Wednesday, January 11 at 7:30 p.m.

Life in a Hard Shell, Members' Program, January 20 at 1:30 and 3:30 p.m.

Planetarium Events

The Spirit of Christmas, November 25 through January 2, 1983. This year, utilizing the Hayden Planetarium's new computer automation system, we present the Spirit of Christmas, featuring more music and beautiful visuals than ever before.

Workdays: 1:30 and 3:30 p.m.
Saturday: 11 a.m. and hourly from 1:00 to 5:00 p.m.
Sunday: from 1:00 to 3:00 p.m.

Next shows will be added Christmas week. December 25 to January 2, 1984

Programs and Tours

Museum Highlights Tours. For the new Museum visitor as well as the veteran Museum goer, the Museum Highlights Tours offer fascinating glimpses into the history and exhibits of the Museum’s most popular halls. The tours leave regularly from the second-floor Information Desk. If you wish to join a first tour, please ask at the information desks for specific tour times.

Discovery Tours. The Museum offers exciting and unusual visits to exotic lands in company with Museum scientists, anthropologists, archivists, botanists, and naturalists. For more information about tours and itineraries, write to Discovery Tours at the Museum or call 873-1440.

Natural Science Center. The Center introduces young persons to the varied wildlife, plants, and rocks of New York City. Guided tours, which include live animals, is open Tuesday through Saturday, from 2:00 p.m. to 4:30 p.m., and Saturday and Sunday, from 1:30 p.m. to 4:30 p.m. The Center is closed on Mondays.

People Center. Ethnic programs featuring dance, music, films, lectures, and workshops are presented on weekends from 1:00 to 4:30 p.m.

Discovery Room. Children are encouraged to touch and handle natural history specimens in imaginative “discovery boxes.” Starting at 11:45 a.m., free tickets are distributed on a first-come, first-served basis at the first-floor Information Desk. The room is open only on weekends from 12:00 to 4:30 p.m. Recommended for ages 5 to 10.

Naturemax Information

The Naturemax Theater is equipped with a 35mm slide projector and a 50-inch screen to exhibit four stories tall and sixty feet wide, as well as an extraordinary stereo system and a projector for showing IMAX films, made ten times larger than the screen. The theater is located off the 7th Street Lobby. For more information, call 873-1440.

Cost Checking. For your convenience the cost check desk is located 1st floor next to the cafeteria.

Museum Information

Museum Hours: Monday, Tuesday, Wednesday, Thursday, Sunday, 10:00 a.m. to 5:45 p.m. Friday, Saturday, and Sunday, 10:00 a.m. to 9:00 p.m.

Food Express Hours. Daily from 11:00 a.m. to 4:45 p.m.

American Museum Research Center. Lunchroom is served daily, from 11:00 a.m. to 3:00 p.m. Afternoon tea is served from 3:00 to 5:00 p.m. Dinner is served Wednesday, Friday, and Saturday evenings from 5:30 to 7:30 p.m. The American Museum Restaurant is located next to the cafeteria, in the basement. Museum Members receive a 10% discount.

Museum Parking Lot. Located on 81st Street. Open Monday through Thursday, 9:30 a.m. to 9:30 p.m. Friday through Sunday, 9:30 a.m. to 12:30 p.m. Rates are $5.00 for cars and $3.00 for buses. Parking is limited.

Lion’s Lair. Relax and enjoy refreshments with the animals in one of the halls. Wednesdays, 3:30-7:00 p.m. Saturdays, Sundays, and most holidays; noon-5:00 p.m.

Southwest Research Station. Museum Members have first privilege at this outpost. If you are planning a visit of less than one week write ahead for details. Southwestern Research Station, Postal Arizona, 85032. Or call (605) 558-2396. For visits of more than one week, applications should be made to the Museum's Department of Research, American Museum of Natural History, Central Park West at 79th Street, New York, NY 10024, or call (212) 873-1200.

Exceptional Gems

Morgan Hall of Gems. Through Friday, January 13

A stunning emerald carved with a prayer on one side and a floral design on the other is one of three spectacular gems currently on display in the Museum. Inscribed with the Islamic date 1107 A.H. (1695 A.D.), it was carved during the Mogul Dynasty in India. Noble of the period (1527-1857) were noted for their jewels and commissioned the most talented craftsmen to produce works of lapidary art such as this one, called “The Mogul.” Such gems were often worn through small holes in a turban or sleeve of an elaborate garment worn by an important noble, always a prayer side out.

The Mogul emerald was originally intended to be presented as a wedding gift to a couple by the technological achievements that gave rise to New York City and space exploration.

This gem, on display for the first time, is a Burma ruby weighing almost sixteen carats. Its size and quality make it extremely rare. It is exceptionally free of flaws and has the "peacock blood" color considered ideal by connoisseurs.

These three gems have been loaned to the Museum by Allan Caplan, a New York gem dealer and collector of fine gems and minerals, who has made numerous donations to the Museum.

Journey Across Three Continents

Wednesday, Jan. 4; Thursday, Jan. 12; Wednesday, Jan. 18

Main Auditorium. 7:00 p.m., Free

The Third World Newswire's fifth annual film festival comprises a first-time retrospective of African filmmakers from West Africa, the United States, and Europe. The films from the festival were selected for screening at the Museum in January.

On Wednesday, January 4, Assistant Curator of African Art, Andrew G. Dickson, will present an introduction to the films and a discussion with the filmmakers. Following the screening, a black African-American community, and their struggle for dignity in a society which offers them only second-class citizenship, will be explored.

On Thursday, January 12, the film will be Ashes and Embars, by the acclaimed filmmaker Hale Girma. It depicts the travail of Ned Charles, a black Vietnamese veteran still fighting after returning from the war.

These films are presented by the African Film Program of the Museum's Department of Education. For more information please call the Third World News at (212) 243-2310, or the Education Department at (212) 873-1300, ext. 514.

Who Needs a Melody?

Sunday, December 18, 3:00 p.m. Kaufmann Theater, Free

Who Needs a Melody? is the title of a young people's concert to be presented by The Bloomingsdale Chamber Orchestra, with Guest Conductor, Mr. Maurice Meall conducting. The concert will include selections such as the first movement of Vivaldi's Concerto for Two Trumpets in C, Bartok's Hungarian Dances, and the grand finish is a Waltz from the Serenade for Strings and Choral of the American Museum of Natural History. Sponsored by the Museum's Department of Education, the performance is free to all Museum visitors. Seating will be on a first-come, first-served basis, so Members are advised to arrive early to avoid disappointment. For more information, call (212) 873-1300, ext. 559.
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*Closed on Thanksgiving Day*