

# DECEMBER 1973

AT THE  
**CALIFORNIA ACADEMY OF SCIENCES**

## DECEMBER MEETINGS

Dates & Matinee, 2:30 p.m., Wednesday

Times: December 12

Evenings, 8:00 p.m., Wednesday  
and Thursday, December 12-13

Place: May Treat Morrison Auditorium

Speaker: James K. Morgan

Subject: "THE BIGHORN SHEEP — AN  
INDICATOR OF ENVIRONMENTAL  
QUALITY"

Mr. Morgan's outspoken controversial stand against destruction of public lands by the livestock industry cascaded into national prominence in 1970 when *LIFE* Magazine did a feature article on his work entitled "Showdown on the Salmon River Range". Since then he has continued his crusade for sane management of the vast public land resources of the West. He used the bighorn as a vehicle to familiarize people with their Western range-land heritage, showing them how it is being used, and informing them of the ecological consequences to man of abusing it.

He uses beautiful, closeup color slides of the rare bighorn in its native habitat. Mr. Morgan, a professional writer and photographer, currently lives in a small cabin on the edge of the timberland in Montana's Bitterroot Range.

There will be three presentations as indicated, and your membership card will admit you through the main entrance of Cowell Hall. At the matinee performance you will be asked to show it once again at the auditorium entrance.

## MORRISON PLANETARIUM

"THE CHRISTMAS STAR", our annual holiday sky show, will be presented for the 21st year in the Theatre of the Stars — an astronomical look at the Star of Bethlehem, a phenomenon that changed the world.

Performances daily at two with evening shows, Wednesday through Sunday, at eight. Extra 3:30 matinees on Saturdays and Sundays. Closed Monday and Tuesday nights, Christmas Eve, Christmas Day, and New Year's Eve. Continues through January 5.

Admission: Adults, \$1.00 with half-price for those 17 and under.

Coming January 10: "NINETEEN-SEVENTY-FOUR."

## SPECIAL EXHIBITS

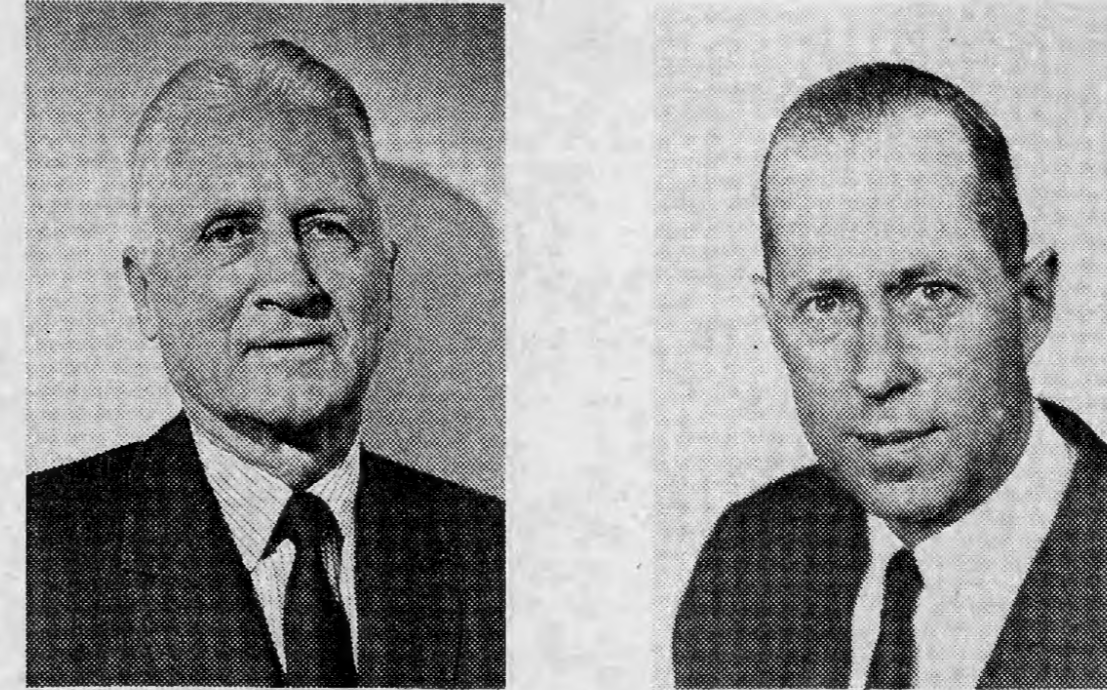
"NATIVE CALIFORNIANS", new botanical linocuts by San Francisco artist, Henry Evans. This is the fourth showing of Mr. Evans' work at the Academy over the past years (we are pleased to note that we were the first public museum to display it) and the consensus is that he has never been better at his unusual craft. Light, airy and lovely, the grace of these 28 prints is a delight. All are for sale (as the quantity lasts) including six done specially for this CAS exhibit. In Hohfeld Gallery through December 31.

"CETACEA", a major Academy exhibit devoted to this order of marine mammals — whales, dolphins and porpoises. Continues indefinitely in Cowell Hall.

## AND A VERY SPECIAL EVENT!

"THE ANNUAL FUNGUS FAIR" — *one day only* — will be held Sunday, January 6 in Simson African Hall. Sponsored by the Mycological Society of San Francisco, this annual event is a highlight of the year. Hundreds of specimens will be on display and experts will be on hand to answer questions and identify specimens. From ten in the morning until five in the afternoon. No admission fee other than that at the Cowell Hall entrance where your membership card is always in good order.

## News and Notes



November 14 witnessed several changes on the Academy's Board of Trustees. Reluctantly, we must report that E. Morris Cox (above left) has relinquished his position as Chairman of the Board. A gentleman who has given unstintingly of his time and energy to the causes of the Academy, Mr. Cox joined the Board in 1962, became its Treasurer the following year, and was elected Chairman in October 1967. Since assuming that position, no one could have brought more to it than he. Mr. Cox will continue as an active Trustee and Chairman of the Hall of Man Committee.

Succeeding him as Chairman will be Paul L. Davies, Jr. (above right). Mr. Davies is a San Francisco lawyer associated with the firm of Pillsbury, Madison & Sutro. He became a member of the Board in 1971 and was elected Treasurer in October of last year.

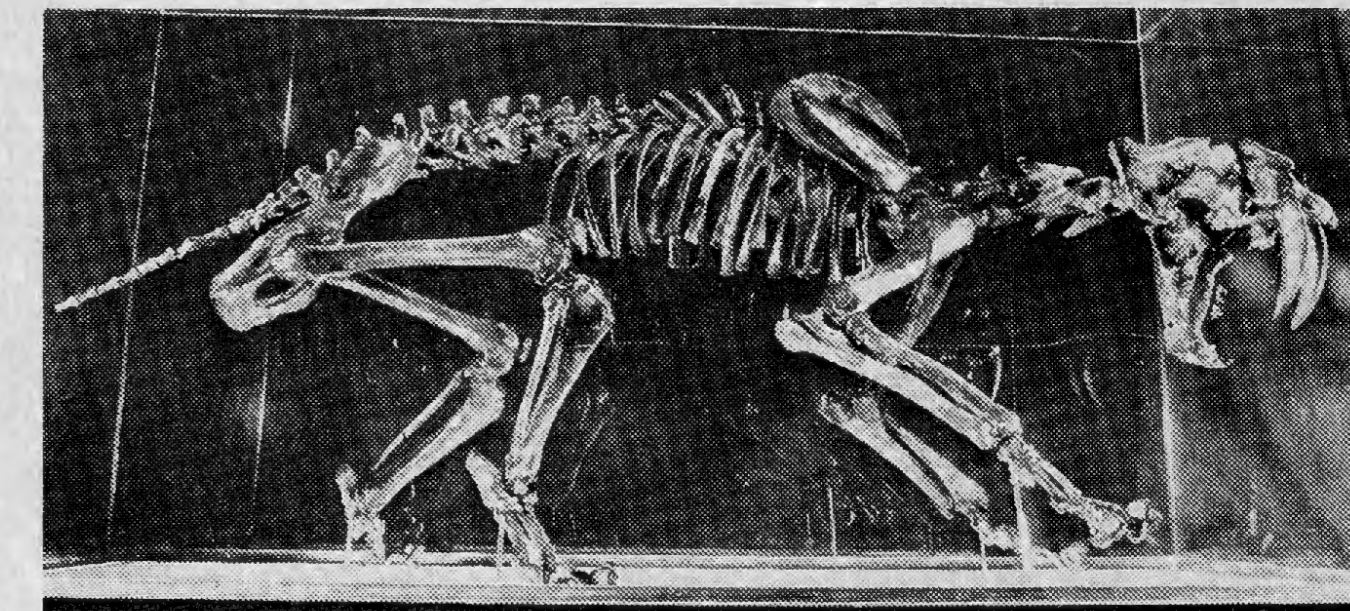
Concurrent with these changes was the announcement that the following distinguished Bay Area residents had become members of the Board of Trustees: Thad Brown, Jeffery Meyer, Otto N. Miller and Mrs. Paul L. Wattis.

**A letter to GEOTIMES**, a publication of the American Geological Institute, set the staff of our Mailliard Library into action. Following are the first two paragraphs: "On May 26 the library of the Departamento Nacional da Producao Mineral, an agency of the Ministry of Mines & Energy of Brazil was destroyed by fire. This library contained more than 150,000 geological and mining references; it was the largest library of its type, not only in Brazil but in all of South America. The destruction was total and professionally the loss to Brazil and South America must be termed a disaster". Following was a plea for

materials — and this is where the Mailliard staff was able to respond in that available for sharing was an extensive collection of Australian publications on geology and mining. Forthwith fourteen cartons were shipped off and we consider that a great job and well done!

**Bidding a final farewell to those** who have become one's friends through Academy association over many years is far from easy. To say goodbye to Wilson Meyer, Academy Trustee, who died on October 26, is indeed difficult. He was a fine human being, blessed with kindness and humor, and happily hard-working and generous when it came to the Academy. At the time of his death he was filled with enthusiasm for the new addition to Steinhart Aquarium now in the offing and for which he was responsible.

Mr. Meyer was elected a member in 1955, became a Trustee in 1958, and had acted forcefully in that capacity until his death. To his wife Mabel and to all members of his family, our deep, deep regret and genuine sorrow on a mutual loss.



**Now that it is highly official** (the California State Senate having made it so on September 12), members should journey to Fossil Hall and take a closer look at one of the exhibits therein. On the aforementioned date, the sabre-toothed cat (noun used on the advice of experts as opposed to "tiger") became the official state fossil. Scientifically known as *Smilodon californicus*, this cat became extinct at the end of the Pleistocene Period probably because animals on which it subsisted had vanished.

The Academy's specimen, which came from the Rancho La Brea tar pits in Los Angeles, was donated by the University of California Museum of Paleontology and was mounted by Mrs. Jean B. Durham, Senior Scientific Assistant in the Department of Geology.



# CALIFORNIA ACADEMY OF SCIENCES ADULT CLASSES . . . SPRING 1974

*As a member of the California Academy of Sciences you are eligible to participate in an exciting new program of adult education classes which will be taught by Academy scientists and other experts.*

*The Academy is privately supported by you and other public-spirited individuals. There are no tax monies for our educational program and we are forced to meet the costs of these classes. Therefore we require minimum enrollments. If a cancellation of enrollment by a student becomes necessary it must be done by the date of the second class meeting in order to obtain a refund. A \$5 service charge will be made for cancellations. If a class is cancelled by the Academy, the entire fee will be refunded.*

*These classes are developed with adult members in mind. However, in some cases, we will accept enrollments from older high-school students. Younger members are eligible for our Junior Academy program.*

*Enrollment couldn't be easier. Simply fill out the attached registration form and mail it with your check to the Education Office, California Academy of Sciences, Golden Gate Park, San Francisco 94118. Early enrollment is encouraged. We are offering San Francisco State University extension credit for some of the classes for a small additional fee. Credit is strictly optional and students need not be currently enrolled at San Francisco State University to receive credit. If credit is desired, call the Education Office, 221-5100, Extension 11.*

## JANUARY

### Music of the Non-Western World

Using the Academy's anthropological collections of instruments and recordings, the student will be introduced to music of the non-Western world. Lectures will be supplemented by demonstrations and performances wherever possible. The course will coincide with a concert series at the Asian Art Museum of San Francisco.

Instructor: Sandra Smith McCosker, M.A., Ethnomusicology, U.C.L.A.

**January 3 - April 11, 7:00-9:00 p.m.**  
(Thursdays - 15 sessions). \$40 plus text.

*Minimum enrollment 13, maximum 40.*

### Natural History of Insects

Edward S. Ross, Curator of Entomology at the Academy, is world-famous for his nature photography. In this course he will share his incomparable slides and wide knowledge of the insect world.

Instructor: Edward S. Ross, Ph.D., Curator of Entomology at the Academy.

**January 16 - April 3, 7:00-9:00 p.m.**  
(Wednesdays - 10 sessions). \$30 plus text.

*Minimum enrollment 12, maximum 40.*

### History of Life

This lecture series will examine the evolution of the life form from the beginnings of geologic time up through the emergence of man.

Instructor: Peter Rodda, Ph.D., Curator of Geology at the Academy.

**January 17 - March 21, 7:00-9:00 p.m.**  
(Thursdays - 10 sessions). \$30 plus text.

*Minimum enrollment 12, maximum 40.*

### Astronomy for Fun

For the novice, this class opens up the what, why, when, where and how of the skies. Non-mathematical.

Instructor: Don Warren, Assistant Supervisor, Morrison Planetarium at the Academy.

**January 29 - April 16, 7:00-9:30 p.m.**  
(Tuesdays - 12 sessions). \$35.

*Minimum enrollment 15, maximum 100.*

### Celestial Navigation

This course will teach you how to fix a position on the high seas using stars, planets, the sun and the moon, as well as the use of charts for plotting.

Instructors: Capt. David W. Todd, Jr., U.S. Navy (Retired) and Comm. Frank Matthews, U.S. Navy (Retired).

**January 29 - May 14** (after the first two Tuesday meetings, the class will be divided into two groups meeting on Mondays and Tuesdays for a total of 16 sessions), 7:30-9:30 p.m. \$45 plus supplies.

*Minimum enrollment 16 each section, maximum 50 each section.*

### Form & Structure: Drawing from Nature

A course to define, establish and develop specific ways and means to visually perceive the subjective form and to apply that perception toward the drawn pictorial image of it. For beginning drawing students.

Instructor: Richard E. Cook, Assistant Curator of Exhibits at the Academy.

**January 29 - March 30**  
(Saturday mornings 10:00 a.m.-noon and Tuesday evenings 7:00-9:00 p.m. - total of 18 sessions). \$45.

*Minimum enrollment 14, maximum 20.*

## FEBRUARY

### Biology of Arachnids

An introduction to spiders and their relatives covering their identification, ecological niches, importance to man. Three field trips to nearby locales are planned.

Instructor: Robert Schick, Ph.D., Assistant Curator of Entomology at the Academy.

**February 4 - May 13, 7:00-9:00 p.m.**  
(Mondays - 15 sessions). \$40.

*Minimum enrollment 13, maximum 20.*

### Geology of the Bay Area

This course will introduce the student to the study of geology, using the Bay Area geological formations as the example. One field trip planned.

Instructor: Jean Durham, M.A., Senior Scientific Assistant in Geology at the Academy.

**February 4 - April 22, 7:00-9:30 p.m.**  
(Mondays - 12 sessions). \$40.

*Minimum enrollment 15, maximum 35.*

### Care of Fresh and Saltwater Aquarium Fishes

Students will be instructed in the maintenance of freshwater and marine fishes in the home. It will cover all aspects of home aquaria including feeding, equipment, disease prevention and treatment, setting up a balanced tank, etc. The class will use the resources of Steinhart Aquarium.

Instructor: Glenn E. Burghardt, Senior Aquatic Biologist, Steinhart Aquarium at the Academy.

**February 6 - April 10, 7:00-9:00 p.m.**  
(Wednesdays - 10 sessions). \$30.

*Minimum enrollment 12, maximum 40.*



# CALIFORNIA ACADEMY OF SCIENCES ADULT CLASSES . . . SPRING 1974

## REGISTRATION FORM

Name .....

First

Middle

Last

Address .....

Class(es) .....

Fee enclosed .....

Daytime Phone .....

For information regarding university credit and unit cost telephone the Education Office, 221-5100, extension 11.

## FEBRUARY (continued)

### Determinative Mineralogy

Using laboratory techniques, students will learn to identify the local Bay Area minerals. Formation of these minerals will also be covered.

Instructor: Charles W. Chesterman, Honorary Curator of Mineralogy at the Academy.

**February 7 - May 23, 7:00-9:00 p.m.**  
(Thursdays - 15 sessions). \$40 plus text.

*Minimum enrollment 13, maximum 20.*

### Sculpture & Model Making in the Natural History Museum

This course will focus on sculpture or model making as a craft utilized in the preparation of natural history museum displays. Much of the class time will be spent in the studio in demonstrations or with the student working on projects. For beginning sculpture students.

Instructor: Jerry F. Glover, Sculptor and Designer in Exhibits at the Academy.

**February 7 - April 11, 7:00-10:00 p.m.**  
(Thursdays - 10 sessions). \$50 includes lab fee.

*Minimum enrollment 15, maximum 20.*

### Evolution of Cosmology

This course will investigate man's changing understanding of how his universe began and evolved to its present state. It will examine early man's views of his universe and how both the facts and approach have changed over the centuries culminating in the modern understanding of cosmology. No math.

Instructor: John W. Hinds, Planetarium lecturer and instructor at San Francisco State University.

**February 20 - May 8, 7:00-9:00 p.m.**  
(Wednesdays - 12 sessions). \$35 plus text.

*Minimum enrollment 12, maximum 35.*

## MARCH

### California Plant Identification

Six all-day Saturday field trips will concentrate on the identification of California plants and wildflowers as they appear during the changing season. Field trips will be selected from the following: Mt. Tamalpais, Santa Cruz Mountains, Pt. Reyes, San Benito Mountains, Pinnacles, Mt. Diablo and Mt. Hamilton.

Instructor: Dennis Breedlove, Ph.D., Associate Curator of Botany at the Academy.

**March 2, 16 and 30, April 13 and 27, May 11.**  
\$45 plus text.

*Minimum enrollment 14, maximum 20.*

### Ichthyology

An overview of the study of fishes conducted by the ichthyologists of the California Academy of Sciences. Many topics, from the evolution and biology of fishes to their behavior and zoogeography. Lectures will be supplemented by tours of Steinhart Aquarium. One field trip planned.

Instructors: Staff ichthyologists of the Academy.

**March 4 - May 20, 7:00-9:00 p.m.**  
(Mondays - 12 sessions). \$40 plus text.

*Minimum enrollment 16, maximum 40.*

### Plants, Man & Civilization

Lecture series covering the historical and present-day influence of plants on man and his way of life. Plants used as food, clothing and shelter.

Instructor: Elizabeth McClintock, Ph.D., Curator of Botany at the Academy.

**March 5 - May 7, 7:00-9:00 p.m.**  
(Tuesdays - 10 sessions). \$30.

*Minimum enrollment 14, maximum 35.*

## APRIL

### Audubon Canyon Ranch Nature Photography

Learn field nature photography at Audubon Canyon Ranch under the guidance of David

Cavagnaro. The class will consist of four Saturday meetings plus one overnight outing.

Instructor: David Cavagnaro, Resident Biologist, Audubon Canyon Ranch.

**April 6, 10:00 a.m.-2:00 p.m.; April 13, 4:00 p.m.-8:00 p.m.; April 20-21, 4:00 p.m.** overnight for early Sunday morning photography; **April 27, 4:00 p.m.-8:00 p.m.; May 4, 10:00 a.m.-2:00 p.m.**

\$40. Students must own a camera of some type.

*Minimum enrollment 10, maximum 15.*

### Introduction to the Intertidal Invertebrates of the San Francisco Bay Region

An overview of the rich and varied invertebrate fauna of San Francisco Bay and adjacent areas. Special emphasis will be placed on the natural history of selected organisms. There will be three field trips to demonstrate the variety of intertidal life in the Bay Area.

Instructor: Dustin D. Chivers, Assistant Curator of Invertebrate Zoology at the Academy.

**Lectures 10:00-11:30 a.m., May 4 and 18, June 1.** Three field trip dates to be selected (possibly on same dates). \$20 plus text.

*Minimum enrollment 9, maximum 30.*

### Introduction to Entomology

Combination lecture and field trip course covering the identification of common local insects, how insects influence human life beneficially and how they spread disease and destroy crops. There will be opportunities for collecting and insect photography. Five field trips will include evening trips, weekend trips to collect, and one overnight camping trip.

Instructor: Stanley C. Williams, Ph.D., Associate Professor of Biology, San Francisco State University.

**April 11 - May 28, 7:00-9:00 p.m.**  
(Tuesdays and Thursdays - 14 lectures plus field trips). \$50 plus text.

*Minimum enrollment 20, maximum 40.*



We will notify the recipients of your kindness before the holidays.

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... A MEMBERSHIP IN THE ACADEMY

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in the California Academy of Sciences, Golden Gate Park, San Francisco 94118,

(see classification below)

(see classification below)

**An upcoming publication of Seminar Press, Inc.** has three authors — two of which have close and important Academy associations. The book: "Principles of Tzeltal Plant Classification (An Introduction to the Botanical Ethnography of a Mayan-Speaking People of Highland Chiapas)". One of the authors, Dr. Dennis E. Breedlove, is Associate Curator, Department of Botany (see July 1973 NEWSLETTER for news of his recent activities). The second Academy-oriented author is Dr. Peter H. Raven, currently Director, Missouri Botanical Garden, St. Louis. Dr. Raven, a Fellow of the CAS, rather grew up in it, getting his scientific roots from both the Junior Academy and the Department of Botany at a very tender age. The third author is Dr. Brent Berlin, Department of Anthropology, UC Berkeley. The volume will be published in February, 1974.

**In memory of Kevin Barry (1945-1971)** who was drowned in a swimming accident near Santa Barbara, the Academy will maintain a Kevin Barry Memorial Collection of marine mammal publications in the mammalogy library.

Kevin, a good friend and contributor to Academy research collections, was dedicated to his work in marine mammal intelligence. His loss is indeed tragic. You are invited to contribute either books or monies in his memory to this project where future researchers, following in Kevin's footsteps, will have access to the collection as he did during his brief but constructive lifetime.

**Two gentlemen, both well known to Academy members,** have been the recipients of a Fellows' Medal, the highest honor bestowed by the CAS. The distinguished silver discs were awarded to Dr. E. Gorton Linsley and to Dr. Robert T. Orr on the occasion of the Annual Fellows Dinner held Saturday evening, October 27.

Dr. Linsley is renowned in the field of entomology, the world of insects. Currently, he holds the position of Dean, College of Agricultural Sciences, and is Associate Director, Agricultural Station, University of California, Berkeley.

Dr. Orr, eminent in the fields of mammalogy and ornithology, is Associate Director of the CAS as well as Curator of Birds and Mammals. He has been associated with the CAS

since 1936 and is the author of 200 scientific and popular articles and a number of books.

**On January 4, 1974,** there will be an orientation lecture on the Mayan, Zapotec and Mixtec civilizations of Central America for those members of the Academy taking the CAS tour to Mexico later in the month and during early February. Feeling that other members might be interested, you are invited to attend the lecture to be given by Mr. Christopher Corson. Seating capacity being limited, we must restrict our invitation to members only and a modest fee of \$1 will be collected at the entrance of Morrison Auditorium for this special event. Seventy-three, Friday, January 4, ending at 9:00.

**NEW MEMBERS OF THE ACADEMY**

**Regular Members**

- |                                      |                              |
|--------------------------------------|------------------------------|
| Mr. Geoffrey C. Bain, Jr.            | Miss Priscilla Martin        |
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| Miss Karen Loeblich Lipps            | Mrs. Stanley Seidell         |
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ACADEMY NEWSLETTER

