

# SAO Commemorates Decade of Satellite Tracking

By James Cornell

On October 4, the 10th anniversary of Sputnik I and the Space Age, the Smithsonian Astrophysical Observatory will commemorate a decade of satellite tracking with cameras.

During the past ten years, the Smithsonian's giant Baker-Nunn tracking cameras have snapped more than a half-million photos of artificial satellites. These photographic data have been used to determine the shape of the earth, the density of the atmosphere, and the distances between the continents.

Today, under a grant from the National Aeronautics and Space Administration, the Smithsonian continues to operate 12 camera stations in 9 countries around the world. The Baker-Nunn camera with its associated timing devices—developed before Sputnik I—remains one of the most precise means of satellite tracking. And this present precision will soon be further improved by the addition of laser systems enabling Smithsonian to expand its role in international satellite geodesy programs.

## THE ASTRONOMERS' ANSWER

Optical satellite tracking began as part of the International Geophysical Year (IGY) of 1957-58 when, at the request of the U.S. Committee for the IGY, the Astrophysical Observatory accepted responsibility for tracking any satellites launched during this period.

Under grants from the National Science Foundation, Observatory Director Dr. Fred L. Whipple supervised the design of the Baker-Nunn camera, the selection of 12 station sites around the world, and the organization of a "back-up network" of volunteer visual observers called "Moonwatch."

Whipple's chief assistants for the tracking program were Dr. J. Allen Hynek, who served as associate director in charge of the station network, and Dr. Karl Henize (recently named a scientist-astronaut), who served

as chief astronomer in charge of the observing program.

## THE BAKER-NUNN CAMERA

The Baker-Nunn camera was developed as a large movable telescope (8-feet high and 10-feet wide, weighing 3 tons) with an unusual light-gathering capacity. For example, star images 3,000 times fainter than those visible to the naked eye can be recorded by the Baker-Nunn. And a six-inch sphere, such as the first Vanguard satellite, can be photographed at a range of more than 3000 miles. This photographic accuracy is combined with electronic timing precise to 1/10,000th of a second.

## THE BIRTH OF THE SPACE AGE

Immediately following the launch of Sputnik I by the Soviet Union, SAO became an information center for the free world. Although the Baker-Nunn cameras were still under construction, the Observatory's Moonwatch network of visual observers provided observational data needed to plot the Sputnik orbit.

Within a few weeks after Sputnik, however, the first Baker-Nunn camera was operating at Organ Pass, New Mexico and made photos of the Sputnik rocket body. (The satellite itself was painted jet-black!)

At the end of the IGY in late 1958, the newly formed National Aeronautics and Space Administration assumed support of the Smithsonian network.

## SCIENTIFIC OBJECTIVES

The original goal of the optical tracking program was to obtain photographs of satellites in sufficient number and accuracy to allow the determination of highly precise orbits. From a study of these orbits, Smithsonian astronomers hoped to construct new representations of the earth's gravitational potential and geometrical figure and to discover possible variations in the density and temperature of the upper atmosphere.

(Continued on page 4)



**MOTHER AND SON**—Button-nosed Dillon, first rhino born at the Zoo and only the thirteenth born in the United States, sticks close to his history-making mother Thelma. The baby, who weighed about 70 pounds at birth on August 31, was named after the Secretary by Mrs. Ripley.

Photo by Richard Hofmeister

# THE SMITHSONIAN TORCH

Smithsonian Institution, Washington, D.C.

No. 26, October, 1967

## NCFA Helps To Establish Art Center in Appalachia

Romney, West Virginia, population 2,203, is the proud repository of Appalachia's first rural art center, the product of both its own initiative and assistance from the National Collection of Fine Arts and other Federal programs.

The center opened September 28 with

a set of displays lent by the NCFA. Leading up to the opening were two years of community preparation.

The tiny population managed to raise an astonishing \$100,000 on its own initiative. A pair of age 70-plus spinsters, Mary and Kate Davis, donated building space next to their prize vegetable garden and were daily construction watchers from their 100-year-old frame home a scant 50 feet away.

The community couldn't carry through the project entirely on its own, however. Acting on the advice of Senator Robert C. Byrd, Romney obtained \$157,000 in grants made available by the Federal Library Construction Act and another \$51,000 from the Appalachia Regional Development Act.

The Senator also suggested that the center staff, all volunteers except for one paid librarian, appeal to NCFA for the training they needed in presenting the fine arts program they sought to build.

The center is in fact a restoration of the tradition set by Romney's first literary society, which in 1819 founded the largest library west of the Blue Ridge Mountains. The library was destroyed during the Civil War, but in 1935 a group of citizens began reassembling the salvaged volumes and raising funds for new books, talent shows, musicals and ballet recitals.

All-out effort did not begin until 1965. At that time it was decided to establish the best educational center possible, with fine and creative arts an integral part of the program.

The NCFA provided the center advice and training in curatorial matters, suggestions for exhibits, and even the preparation and loan of the first show.

Romney residents are now being exposed to the drawings and sculptures of Paul Manship, children's art produced in museum art schools throughout the country, woodcut blocks by Japanese artist Misafune, and a group of French drawings sent in 1915 as a gift to the U.S. from the government of that country. The show is designed to appeal to all age groups and interests.

## Legislation on Lilly Collection Introduced

Legislation just introduced in both houses of Congress will, if approved, save the world's largest and most valuable gold coin collection from liquidation and pave the way for its transfer to the Smithsonian.

Assembled by the late Josiah K. Lilly, former head of an Indiana pharmaceutical firm, the 6000-piece collection includes hundreds of extremely rare and, in some instances, even unique pieces.

Under the bill, introduced by the Indiana Congressional delegation, the Lilly estate would be entitled to a \$5.5 million credit on the Federal estate tax upon delivery of the collection to the Smithsonian.

"There is no museum in the western world with a comparable collection," Dr. Vladimir Clain-Stefanelli, curator of MHT's division of numismatics, says of the Lilly coin hoard. Dr. Stefanelli notes that the United States section, for example, is virtually complete and contains 1,227 pieces.

Latin American coins number 1,236, including 655 eight-escudo pieces. For comparison purposes, the famed Emilio Carles-Tolra collection contained only 256 eight-escudo pieces.

The National Numismatic Collection administered by the Smithsonian duplicates comparatively few of the items which are in the Lilly collection. "Because of this," Indiana Senator Birch Bayh stressed at the time the legislation was introduced, "it would be tragic if the Lilly collection were to be sold piece by piece and scattered round the world in different hands."

The Merchants National Bank & Trust

Co. of Indianapolis, executor of the estate, has no authority to contribute outright the collection of gold coins to the Smithsonian because the will grants no power to make gifts of any kind.

The bank has stated that it will be obliged to liquidate all of the assets of the estate, including the gold coins, unless some way can be found for the Nation to acquire the collection.

The collection, now in vaults in Indianapolis, was kept by Lilly in some

## Associates Include Tours, Lectures Among Variety of October Activities

Members of the Smithsonian Associates this month will be able to choose among a variety of activities that range from a course in American history to a lecture on fashion design, from all-day art tours to a vocal concert.

Pauline Trigere, named to the Hall of Fame of the Coty American Fashion Critics Awards, will present a lecture-showing on "The Designer as a Creative Person" on October 17. Her appearance will be the first of a series of lectures on the creative person in various fields.

Art tours to five eastern cities are the Associates' newest program offering. Richard H. Howland, chairman of the Department of Civil History, will take a group to Baltimore October 7. Harry Lowe, curator of exhibits for NCFA, will conduct a tour to Richmond October 14.

A second series of monthly luncheon talks begins October 3 and 5 with a lecture by Dr. Howland on "Official and

50 velvet-lined Moroccan leather cases until his death on May 5, 1966. Lilly sent an agent to purchase the valuable coins at various auctions. His interest in coins was little known during his lifetime.

Publicly, he was known for his valuable collections of paintings, stamps, antique swords and firearms. It was only about a year ago that the Smithsonian's Stefanelli learned the coins belonged to Lilly.

Unofficial Architecture in Washington." Employees may attend at a cost of \$21 for the series of six lectures, or \$3.50 for one. Regular price of the series is \$30 for Associates and \$36 for non-members.

The second year of special courses offered by the Associates began September 30. Sixteen subjects are being taught, seven for adults and nine for young people. More than 2,500 students were enrolled for the first year's offerings.

Other activities for October include a tour of Mrs. Marjorie Merriweather Post's Hillwood estate in northwest Washington, October 18 and 19; a tour of salvage archeology in Alexandria led by Richard J. Muzzrole of the Division of Cultural History October 22, and a concert by the Gregg Smith Singers October 24. A lecture on how aircraft fly, for young people 6-12, on October 28 and a shore stroll conducted by Joseph C. Britton of the Department of Invertebrate Zoology on October 29 complete the month's schedule.



Dr. John Napier and his assistant, wife Prew, take a close look at a fellow primate. Dr. Napier, one of the world's leading primatologists, is here to head a new research and education program in Primate Biology on an international scale.

## Smithson's Tomb To Make Yet Another Journey Soon

By Sam Suratt

James Smithson and his tomb have traveled more than 5,500 miles in the past and are scheduled to travel another 100 feet soon.

The mortal remains of James Smithson, the founder of the Smithsonian Institution, once rested on a quiet hill overlooking the Gulf of Genoa in Italy. The marble tomb that now sits in a crypt just inside the main entrance to the Smithsonian Building was first erected in the British Cemetery on the heights of San Benigno in Genoa by Smithson's nephew, Henry Hungerford, first heir to the Smithson estate, in 1829.

The monument's base is of pale marble six feet long, three feet across, and three and three-quarters feet high. On top of this is a decorative white marble urn. The entire burial plot was enclosed by a wrought iron fence, part of which now serves as a door to the Smithson crypt.

When expansion of a nearby rock quarry threatened to eat up the entire hill on which the quiet Genoa cemetery stood, the British Consul notified the officials of the Smithsonian in 1900 that something should be done about the monument and remains of James Smithson.

At first the Regents of the Smithsonian planned to have Smithson reinterred in a newly located British Cemetery in Genoa, but the city officials delayed the relocation year after year. One of the Regents, Alexander Graham Bell, made public his desire that Smithson's remains should be brought to the United States.

Newspapers throughout the country editorialized in favor of Bell's plan. He himself offered to pay for the expense of moving the remains to the United States. This public clamor plus the news, in 1903, that Smithson's grave was in immediate danger caused the Regents to appoint Bell to oversee the transfer of Smithson's remains to Washington at the Institution's expense.

Dr. Bell arrived in Genoa on Christmas Day in 1903. On New Year's Eve the grave in which the body of James Smithson had been resting for 70 years was opened.

Two days later a short ceremony was held in which the United States Consul placed the American flag over the casket, saying that "the flag adopts him already, in the substance, for our country, to which he has so long belonged in spirit."

When the *Princess Irene*, bearing Dr. Bell and Smithson's remains, arrived in the outer harbor of New York, she was met by the dispatch ship U.S.S. *Dolphin*, to which the casket was transferred. The *Dolphin* arrived at the Washington Navy Yard late Saturday afternoon, January 23.

On Monday morning, Smithson's remains were reverently taken from the *Dolphin*, placed on a caisson, and covered with both the American and British flags. Then, preceded by the Marine Band playing funeral marches, a battalion of Marines, and a detachment of Naval officers, the funeral cortege moved across the Navy Yard.

Following the caisson was the Assistant Secretary of State representing the President, the British Ambassador, the Regents and Secretary of the Smithsonian, and other SI officials.

Six distinguished Smithsonian scientists carried the casket from the caisson into the main hall of the SI Building. Dr. Bell formally turned Smithson's remains over to the Institution. Maine Senator William P. Frye, a Regent, accepted, saying that "His grave here will be an incentive to earnest, faithful, wise and discreet endeavor to carry out his lofty purposes, and it will be to our people a sacred spot while the Republic endures."

It took a year to decide where the remains should be interred and to make the necessary arrangements. Many places were considered, including the Roman Sarcophagus in which Andrew Jackson refused to be buried. Smithsonian officials decided on the present spot, at least until Congress would appropriate funds for a grand monument on the grounds.

Dozens of artists and stonemasons submitted designs for a new tomb, but when it was found that the cost of a monument befitting Smithson's importance would cost some \$30,000, the Smithsonian decided to have the original one brought from Italy.

(Continued on page 3)



**LATEST ACQUISITION**—Dr. Richard Howland, chairman of MHT's Department of Civil History, contemplates one of SI's latest acquisitions: a 176-year-old Russian gold chalice commissioned by Catherine the Great to honor the memory of a dead lover. The 13-inch-high chalice, made of 21 carat gold and encrusted with diamonds, was purchased in London by the Smithsonian through funds contributed by Mrs. Majorie Merriweather Post. It can be seen in the Hall of Gems of MNH.

—ABOUT SI PEOPLE—

## Primate Study Man-Related, Says British Primatologist

"Man is a primate. Therefore, anything to do with primates is something to do with us."

Simply stated, this is how British scientist **John Napier** sums up the urgency of primate—subhuman branch—research, a program he is at the Smithsonian to head on an international basis.

Dr. Napier, 50, jokingly described the program in another context: "If one Englishman can give all that money to America, it's about time another Englishman took some of it back."

Back to London, that is.

The new research and education program in primate biology plans to wed the best resources of the United States and the United Kingdom, with headquarters at both the Smithsonian and the University of London.

Dr. Napier will work with **Charles O. Handley** and other scientists from the Museum of Natural History in a program that will further knowledge in primate classification, morphology, anatomy, genetics, paleontology, ecology, and behavior.

The broad-based program also will provide for the needed training of primatologists. It is in this area that **Dr. Sidney R. Galler**, SI's Assistant Secretary for Science, has said: "The rapidly increasing use of monkeys and other primates in medical research and other scientific studies has created a critical need throughout the Western world for trained primatologists and for a more sophisticated knowledge of primate biology."

Dr. Napier believes that, in many ways, primate biology is the ideal basic educational course for the human sciences and, along with many scientists, he is convinced that the primates hold the key to some of the numerous problems that beset mankind today in the fields of health and sociology.

"If we can understand how the basic principles underlying aggression operate in subhumans," Dr. Napier explains, "we can come to understand the principles affecting humans."

A medical doctor by profession, Dr. Napier comes to the Smithsonian from the University of London, where he developed and directed the Unit of Primatology and Human Evolution at the Royal Free Hospital School of Medicine. This unit will serve as SI's British base in the primate biology program.

At the Museum of Natural History, Dr. Napier has been awarded full curatorial status and, following in a well-established tradition, he has strong feelings about all aspects of his new role. "There will be no building up and sitting on collections," he emphasizes. "They will be used."

Dr. Napier has been developing the field of primate biology for the past 10 years, with a little bit of extracurricular time devoted to semi-pro magic. He was, in fact, associated with London's famed "Magic Circle." He prefers comedy magic. "Simple but with a lot of patter."

He admits that primate biology is still in the collecting and cataloguing phase. It has, however, erased Disraeli's well-known exercise in evolution rhetoric.

"The question," said Disraeli in 1864, "is this: is man an ape or an angel? My Lords, I am on the side of the angels."

Dr. Napier, evoking a Darwinian smile, will tell you quite unequivocally that man and apes are part of one zoological order:

"The Archbishop of Canterbury, after all, is England's leading Primate."

### PAUL GARBER IN NEW ROLE

The National Air and Space Museum has received a major gift of more than \$600,000 from the estate of the late **Admiral and Mrs. DeWitt Clinton Ramsey** for the support of projects in naval aviation history. Admiral Ramsey was one of the earliest naval aviators.

Mrs. Ramsey's will specified the construction of a building at Silver Hill for the housing and restoration of the naval aircraft that are not exhibited in the Washington premises. It also called for the furnishing of a small room in the new NASM headquarters as a memorial to individuals who dedicated their careers or gave their lives for the advancement of flight.

**Paul A. Garber**, who will retire from his present assignments as senior historian and curator of NASM on December 31, has been named the first Fellow and trustee of the bequest. He will assume his new duties January 1.

### KEY OFFICIALS LOOK FOR KEY

Key officials here say they do not know where the key is.

They include **Frank A. Taylor**, Director of the U.S. National Museum, **Samuel T. Suratt**, archivist, and SI's registrar **Helena Weiss**.

The missing, long elusive key is supposed to be used by the President of the United States on July 4, 1976, to open a safe.

The safe is to be opened on the 200th anniversary of the signing of the Declaration of Independence. It is known as the Centennial Safe and is filled with memorabilia of the nation and of the 1876 era. Currently, it reposes in a hidden recess of the U.S. Capitol.

It is believed that the Smithsonian was given the key for safekeeping, but Suratt says there is no correspondence, let alone the key, to support the claim.

### MNH CONTRIBUTES TO INTERNATIONAL BIOLOGY

Three Museum of Natural History Scientists and a Smithsonian-sponsored taxonomy editor are engaged in research studies as part of the United States contribution to the International Biological Program.

These individual research projects are among 104 "aimed at preserving the habitability of Earth," and are the first to be identified and described in this country's participation to the IBP.

Dr. **Helmut K. Buechner**, Director of the Smithsonian's Office of Ecology, heads the Institution's participation in IBP. His research project is titled "Survey of Opportunities for Ecological Studies in Foreign Currency Countries."

**J. Lawrence Angel**, curator of the Division of Physical Anthropology, is working on "The Social Biology of Culture Change," **James A. Peters**, curator of the Division of Reptiles, is developing a "Handbook of Neotropical Squamata," and **J. Meester**, editor of South Africa's University of Pretoria, is producing a Smithsonian manual to provide a preliminary guide to the taxonomy of African mammals.

### SMITHSONIAN TORCH

Published monthly for Smithsonian Institution personnel by the Office of Public Affairs. Submit copy to TORCH, Room 131, SI Building.

## NASM'S Durant, Johnston Abroad

The top staff of the Air and Space Museum is on the wing this month. Director *S. Paul Johnston* is inspecting air museums in England, the Netherlands, Germany, Switzerland, and France while Assistant Director *Frederick C. Durant* attends the 18th Congress of the International Astronautical Federation at Belgrade.

Botanists *Stanwyn Shetler* and *Edward S. Ayensu* are both on the road. Shetler is conferring with colleagues in England, the Netherlands, Germany and Denmark on European flora projects and working on publication of a scientific monograph on New World harebells. Dr. Ayensu is exploring opportunities for cooperative research in ecology in Ghana and collecting specimens in Ghana, Togo, and Dahomey. . . . Drs. *John F. Eisenberg* and *Clinton W. Gray* of the Zoo are both heading for Ceylon. Eisenberg to supervise the Elephant Project and initiate a Ceylon Primate Project, and Gray to instruct Zoo field personnel. Dr. Gray will go on to Tanzania, Uganda, Kenya and Western Europe to visit zoos and compare techniques. . . . Dr. *J. Laurens Barnard* of crustacea, who has been stationed at the Bishop Museum in Hawaii for a year, is on the move again, to study amphipod collections in museums in New Zealand, Australia, and South Africa until September 1968. . . . Dr. *Mary E. Rice* of worms is in Venezuela for four months to study the development of the sipunculids of the Caribbean. . . . Also in South America is Dr. *Joseph P. E. Morrison* of mollusks, visiting museums in Colombia, Peru, Chile, Argentina and Uruguay. . . . Two invertebrate paleontologists, Drs. *Richard Cifelli* and *Kenneth M. Towle*, are attending the Planktonic Conference in Geneva. . . . Dr. and Mrs. *V. Clain-Stefanelli* are conducting a numismatic survey of museums and private collections in Hungary, Romania, Austria and France. . . . Making a similar European tour is *Paul V. Gardner*, compiling data on ceramics and glass to be used in museum publications and lectures. . . . Dr. *Ralph A. Bram* of entomology will return in December after collecting specimens for study by the South East Asia Mosquito Project.

## 9 MILLION VISITS

More than nine million visits to the Mall museums were recorded while summer hours were in effect from April through August.

This year's total represented an increase of 382,776 over the number recorded during the same period last year. One-and-a-half million visitors took advantage of the additional hours after 4:30.

## FREEZE-DRYING OF SPECIMENS

# Hower Develops Unorthodox Process

The Museum of Natural History is making increasing use of the new process of freeze-drying in preparing animal specimens for exhibit.

This unorthodox method of preserving animals, birds, and fish for display was developed by *Rolland O. Hower*, whose 14 years at the Smithsonian as an exhibits specialist have also made him a self-taught scientific hybrid.

Hower's device, which resembles "two fat, stubby mushrooms—one growing normally, one turned on its side"—dehydrates wild creatures by sublimation. That is, moisture is removed from the specimen while it is processed at below-zero temperatures in the combination vacuum chamber-condenser.

Because the specimen never becomes wet, its cells don't shrink, distend, or otherwise become distorted. It loses much of its weight but retains a life-like form and color.

Conventional taxidermy calls for skin-

# History Dictates Mrs. Murray's 'Wardrobe'

By *Mary M. Krug*

Mrs. Anne Murray is one woman who would rather have a dress that everyone is wearing than a one-of-a-kind designer original. And she would also take a handwoven cotton or linen dress in preference to a silk ball gown.

Add to this the fact that Mrs. Murray purposely stays five or six years behind the latest styles and you would have an unusual fashion philosophy—that is, if these standards applied to her own wardrobe.

But Mrs. Murray is a historian and curator of the Museum of History and Technology's American costume collection. The criteria concern her museum "wardrobe," not her own.

The 12,000-item collection covers a vast range of women's clothes and accessories, from fans to busk boards, and a substantial collection of children's clothing of the 19th and 20th centuries. Even the male, who frequently finds himself neglected when it comes to fashion, is well represented.

A good picture of any period is impossible to form without evaluation of its mode of dress, Mrs. Murray feels. Costume, she says, can reveal the social attitude of an era, its desire for change and degree of optimism, as well as its technological level and relative affluence.

It is the importance of costume as historical document that makes Mrs. Murray seek the typical garment in preference to the exclusive or ultra-glamorous. But this can cause acquisition problems. Most women, she finds, tend to keep things for sentimental reasons. Since there is not much sentiment involved in doing the marketing, but a great deal in a festive occasion, the curator finds herself with an imbalance of dressy costumes. In a closet full of brocade and lace, she points out the simple calico most proudly.

It is historic value, too, that keeps Mrs. Murray five or six years behind on fashion. It generally takes that long, she says, to gain the perspective to determine whether a style is representative of the times or a mere fluke.

A fashion that won't have to wait so long for an evaluation is the miniskirt. "I think we should have a miniskirt," she says. "It has gotten to be more than a fad—so many young girls are wearing them."

Visitors shouldn't expect to see one in the Hall of American Costume for some years however. Its displays deal with history. As Mrs. Murray puts it, "the current season's styles may be viewed in a department store." If time proves them significant, they are added to the collection and ultimately put on exhibit.

Delicate old clothing naturally requires special treatment. Garments hang in metal closets on lined hangers or are spread flat in wooden drawers lined with muslin. The cloth lining, Mrs. Murray explains, is to protect the costume fabrics from the natural acidity of wood.

Items in the collection are handled only with gloves, since cleaning is an unsolved problem. All museums with costume collections are looking for a cleaning method safe for every fabric. They fear that dry cleaning by existing methods may have a long-range harmful effect on preservation.

Present cleaning methods for silk and wool consist merely of spreading out the garment and moving a small vacuum cleaner over a fiberglass screen above it. Linens and cottons are hand washed in distilled water and mild detergent or pure soap. Ironing can be dangerous so the garments are fingered smooth.

Examination of the fashions in her care reveals a repetition of themes over the years, Mrs. Murray notes. The empire waistline, for example, has been re-



Curator Anne Murray adjusts the 18th century gold silk damask dress of a mannequin that will go on display in the Hall of American Costume. The dress was worn by Mrs. Eliza Lucas Pinckney, wife of Chief Justice Charles Pinckney, and was woven of silk made from silkworms on their South Carolina plantation.

appearing periodically since the early 19th century, and the Gibson Girl blouse has also enjoyed revivals. But each period puts its own distinctive mark on a basic style.

Another trend the collections reveal is that women have always been more concerned with style than comfort. Mrs. Murray cites the corset, bustle, and layer on layer of petticoats as examples of what women will put up with to be in fashion.

Children's clothing—even for little boys—merely echoed mother's dresses up until the late 19th century. "The 20th century liberated children—there is more concern today over what is good for the child," she says. "The last century was such a gloomy one, with the Victorian attitude covering department as well as clothing—that is, children should be seen and not heard."

Men's clothing shifted rapidly over the years from the ruffles and brocades of the 18th century to today's conservative dress. Although there have been some signs that more color and variety are being introduced into the male fashion world, Mrs. Murray doubts that "you can interest men again in being the more colorful sex."

Working around so many elegant garments might be viewed as a tantalizing experience by some women, but Mrs. Murray "gets caught up in the historic aspects of the work" and is "not inclined to wish I could borrow from the collection"—which, once again, marks Mrs. Murray as a lady with what might be considered an unusual fashion philosophy.

## TRAVELING TOMB

(Continued from page 2)

Thus, on January 25, 1905, one year from the date Smithsonian's remains arrived at his Institution, the Regents looked on while the casket was placed in the tomb once more and sealed up. There Smithsonian's bones have remained undisturbed for over 60 years.

Next year sometime those dry bones are going to "walk around" again. But this time it will be just a short trip across the Great Hall and into the south entrance of the building.

The tomb will be erected in a more open spot and the public will have an even better look at the monument to "James Smithsonian, Fellow of the Royal Society, London, who died at Genoa, the 26 June, 1829, aged 75 years."



Rolland O. Hower, visual information specialist who developed the freeze-dry technique of specimen preservation, with some of the life-like animals he has processed. Behind him is a new freeze-dry chamber big enough to hold a cow.

# Freer Gallery Would Have Impressed Marco Polo

By Donald J. Frederick  
(The National Geographic News Service)

An extravagant marble palace captivated Marco Polo on one of his trips to the Orient.

The 16th-century Venetian explorer described the rooms as "gilt and painted with figures of men and beasts and birds . . . all executed with such exquisite art that you regard them with delight and astonishment."

The Freer Gallery of Art suggests this fabled palace. Built in Florentine Renaissance style, the museum displays oriental treasures that would have dazzled even Marco Polo.

Not all visitors to Washington know about the Freer, but everyone who enters the building seems to have heard about Whistler's famed Peacock Room; it resembles an early exercise in Oriental surrealism.

The ceiling and walls of leather, wood, and canvas glow with opulent blue, gold, and green designs inspired by



Whistler's famous Peacock Room in the Freer Gallery.

feathers of the stately bird. A turquoise-blue fireplace heightens the effect.

Whistler designed his Peacock Room for a prosperous English merchant in 1877. The Freer's oldest exhibit is a collection of Chinese bronzes from the 12th century, B.C.

The Freer's 19 galleries artfully exhibit bronzes, paintings, sculptures, pottery, lacquers, manuscripts, and porcelain from China, Japan, India, and Persia. Only some 800 of the museum's 10,000 items are displayed at once.

The basis of the Freer's vast collection was entrusted to the Institution in 1906 by Detroit industrialist Charles Lang Freer.

Charles Freer had a deep appreciation and understanding of Oriental art. At the turn of the 20th century, when homes were cluttered with dubious Chinese prints, peacock feathers, and parasols the retired businessman traveled to the East to discover for himself what was good in Oriental art. He picked his way through "some of the most beautiful fakes you have ever seen" to amass his treasures.

President Theodore Roosevelt hailed Freer's gift to the Nation as "one of the most valuable collections which any private individual has ever given to any people." The bequest included a generous endowment for the study, care, and development of the collection and a palacelike building to house it.

From the beginning, scholars were attracted by the Freer's unruffled atmosphere and research possibilities. The museum library contains 40,000 volumes, including some 19,000 Chinese and 2,000 Japanese titles.

Dr. John A. Pope, the Freer's present director, enthusiastically supports research. And when time permits, the affable director himself may trace the origins of an old Chinese mirror or tudy fragments of ancient porcelain that he collected on a trip to the Far East.

West meets East at the Freer, however. The museum owns more than 900 works by the eccentric American artist James McNeill Whistler.

Though Whistler's most celebrated painting, a portrait of his mother, hangs in the Louvre, the Freer has Whistler's father. A portrait of Major George Washington Whistler supposedly painted by the artist at 18 hangs on a rack in one of the gallery's storage rooms. The portrait is displayed from time to time, but the Freer has so many other excellent works by Whistler that the artist's father must wait his turn.



One of the treasures of the Freer is this wild goat of hollow gold from Persia.

## Oregon Surrenders Claim To Marine Fossil Hoard

"Fossil Finder Fans A Feud Over Some Old Dry Bones."

Thus read the front-page headline in the Salem, Ore., *Capitol-Journal* regarding a University of Oregon researcher who sold his marine fossil collection to the Smithsonian for \$30,000—a transaction that immediately was challenged by the university's museum director who said the valuable collection should remain in the state.

But that was early September.

The controversy apparently has ended. And the Smithsonian hopefully can ex-

## Aviation's Voices To Be Preserved On NASM Tapes

The actual voices and thoughts of men who have made and are making aviation and space history will be heard by future generations thanks to a new program in oral history at the National Air and Space Museum.

More than 100 tape recordings are already on hand in the Historic Research Center NASM is establishing. Such prominent aviation and space pioneers as Grover Loening, Igor Sikorsky, Jimmy Doolittle and Hugh Dryden have been recorded in lectures, dedications or interviews.

NASM's aim is to bring in the men whose contributions have been significant and get them to reminisce on tape. "The closest you can ever come to the real truth is to get it from the person himself," explains assistant director Ernest Robischon, "and most people are not prone to writing."

A recording of a historic person's voice can best preserve the emotional aspects of aviation development, Robischon believes, and therefore provide inspiration to the listener.

When the research center is fully developed, the recordings will be stored in a master tape bank, and copies can be made for students and scholars to borrow just as they would a library book.

pect very soon a few tons of highly prized Oregon beach specimens.

The State Land Board in a recent letter to Dr. Richard S. Cowan, Director of MNH, said it "has unanimously decided to not assert any claim to a possible state-ownership interest in the collection or portions of it."

Described as "the largest single collection of marine fossils in the world," the hoard is the product of 12 years of searching by Douglas Emlong of Glenden Beach, Oregon.

He collected most of the fossils on Oregon beaches. It was on this fact that J. A. Shotwell, director of the University of Oregon Museum of Natural History, tried to stop the sale. He said that since the fossils came from state-owned beaches the collection should not be sold.

But the man who holds the State's pursestrings, Treasurer Robert Straub, said "it was Emlong's work and skill that made the collection valuable." And, no less a figure than Tom McCall, Governor of Oregon, backed the transaction.

Said he: "It's a matter of simple justice. This man should be allowed to reap the fruit of his work."

The Smithsonian, which has made a \$500 down payment, is still awaiting the final blessings of the State Attorney General and the President of the University of Oregon.

When given and, if affirmative, the collection will be shipped here and put under the charge of Dr. Clayton E. Ray, MNH's curator of vertebrate paleontology.

The collection will be paid for over a five-year period, by money provided in the late SI Secretary Charles D. Walcott's Fund, which is set aside expressly for such a purpose.

**PIONEERS—A Terre Haute, Indiana, Moonwatch team in action back in 1957, the beginning of the Space Age. Moonwatch, a volunteer network of amateur astronomers, had been trained several months in advance of Sputnik by SAO. More than 100 teams are now in action around the world. They have made more than 100,000 successful observations in the last decade.**

## Ten Years of Tracking

(Continued from page 1)

These goals have been met—and bettered—with a success never imagined ten years ago. For example, the recently published *Smithsonian Standard Earth*, based on more than 40,000 satellite observations, estimates the distances between major land masses with an accuracy of about 30 feet. This compares with past errors of pre-satellite days measured in hundreds of feet.

Moreover, the shape of the earth has been mathematically described to show massive highs and lows corresponding to the earth's gravitational pull. According to this new view, our planet looks like a lumpy egg-plant, slightly flat at the poles and sporting a small bulge beneath the Equator.

A by-product of optical satellite tracking has been the publication of the

*Smithsonian Star Catalog*. This uniform catalog gives photo and visual magnitudes, proper motion, spectral type, and other data on approximately 250,000 stars. This single atlas now combines most of the data previously found in more than 40 separate catalogs.

Ten years ago, a small group of astronomers, technicians, and newsmen kept an all-night vigil at SAO headquarters, watching the birth of the space age and plotting the course of a single satellite.

A decade later, the Observatory is continuing its watch of the sky. Today, however, the space age is full-grown, with more than 1200 man-made objects in orbit, and the Smithsonian's optical tracking program is now helping to chart the earth as well as outer space.

