



# THE SMITHSONIAN TORCH

Smithsonian Institution, Washington, D.C.

No. 28, December 1967

## Christmas at Smithsonian: Masques, Mimes, Toyland

by Mary M. Krug

Traditional holiday observances sponsored by the Museum Shops and the Division of Performing Arts will

highlight the Christmas season at the Smithsonian.

A "Fantasyland of Toys," gathered from around the world, is the Shops' December sales exhibition. "Mimes, Masques, and Miracles," a ten-day Christmas festival, will be staged by the Division of Performing Arts.

The Shops will open their fantasyland December 4 with a 5:30 to 7 p.m. reception for employees, followed by a similar event for Associates. The exhibition's international theme will be carried through by embassy children in native dress and traditional carols also provided by the embassies.

A large Christmas tree decorated with toys from the sales collection will dominate the show in the MHT first floor lounge. It will be surrounded by smaller trees trimmed in the styles of various nations. Antique toys from the cultural and political history collections will also be on display.

Items from Japan, India, Germany, the United States, England, France, Latin America, Greece, Spain, Italy, Scandinavia and Africa have been gathered for the show. The usual 20 percent employee discount will apply. Exhibition designer is Mike Carrigan.

The Performing Arts Division's festival is based on old Stuart court pageants staged for the 12 days of Christmas. Two performances daily will be given in the Iron and Steel Hall, MHT, from December 27 through 30 and from January 2 through 6, plus a special performance for Associates December 26. The 45-minute shows will be presented at 4:30 and 6 p.m. They will feature such characters as Father Christmas and the Lord of Misrule, clowns and English country dancers.

The Recreation Association's Smithsonian Singers, under the direction of exhibits specialist Toussaint Wallace, will make their first appearance on December 21 at 3 pm with a program of seasonal music in the MNH Rotunda. They will also carol through the corridors of office areas.



This collection of late-19th century Christmas gifts and decorations was put together by Rodris Roth, associate curator of the Division of Cultural History, for the cover of *Sears EAST WIND*, the Sears house organ. It is reproduced with permission.

## Exposition Hall Developing in A&I

The Smithsonian Exposition Hall may still be far in the future, but some of the changes that will convert the Arts and Industries Building are already underway.

Exhibit areas vacated when their contents were moved to MHT are rapidly being adapted to house temporary shows sponsored by both the Smithsonian and outside groups. Charles Eames is designing the major upcoming exhibition, "The Changing City," a large photographic show sponsored by SI. It is expected to open in late May.

Another major project in the development stage is a new Museum Shop to be built in the northeast court. James Mahoney, NASM's assistant director for exhibits, is designing the shop with a professional firm, Tri-Arc Associates.

Special sales areas will be provided for items for both children and adults for books, and for continuing sales exhibitions. When it opens early next summer, the shop will be the largest in any of the Smithsonian museums.

The loading platform at the east door is being rebuilt closer to the end of the building, giving more display space to the National Air and Space Museum. The International Exchange Service's move to 24th Street also makes possible the opening up of the North East Range for NASM exhibits and visitor circulation.

Eventually both the interior and exterior of A & I will be renovated to emphasize the building's Victorian character. (continued on page 2.)

## FOREIGN CURRENCY PROGRAM

## SI Funds Support Fossil Study, Art Salvage

by George J. Berklaey

*Item:* A Yale University expedition to Egypt has discovered the fossil skull of what is believed to be the oldest member of man's "family tree."

*Item:* A Stanford University team helped save priceless relics dating back to the early Roman occupation of Yugoslavia.

*Item:* An Italian conservator is in Ceylon to restore 1500-year-old frescoes that were severely damaged by vandals.

These three recent projects have one thing in common: they were financed by the Smithsonian Office of International Activities under its Foreign Currency Program.

This two-and-a-half-year-old program, currently funding 45 scientific projects, is made possible in countries where the United States owns "excess" foreign currencies generated by the sale of surplus agricultural commodities.

The Smithsonian is supporting research in the United Arab Republic, Israel, Poland, Yugoslavia, Tunisia, India, Pakistan, and Ceylon, and possible projects exist in Guinea and the Congo (Kinshasa).

From a \$2.3 million fund of these currencies for fiscal 1968, the Smithsonian is participating in archeological and biological projects ranging from studies on Phoenician glass manufacturing to ancient urban technology in southern Asia to the ecology of the Ceylonese elephant or the small mammals of Bengal.

One fascinating example of the work of this program is provided by a project

in the United Arab Republic. There, in the ancient land of pyramids, mummies, and sphinxes, a University of Pennsylvania team and an IBM computer are helping to solve what has been described as "the world's largest jigsaw puzzle."

The goal of the project is to photograph and match with the use of computers the massive stones of the temple of King Akhenaten and Queen Nefertiti that are stored at random in Luxor. Interpretation of the pictorial scenes and hieroglyphics on the stone faces is expected to reveal a great deal about Egyptian life in a distant age.

The scope of this international program—its continuing contributions in carrying out James Smithson's mandate—are further illustrated by the fact that some 100 universities and museums in this country and abroad are involved in the conduct of some form of research under it.

The roll call of Smithsonian people involved as participants or coordinators is also a long one.

The Mediterranean coast of Africa is the site of a three-year study of bird migration being conducted by Dr. George E. Watson, chairman of the Museum of Natural History's Department of Vertebrate Zoology, in cooperation with a U.S. Naval medical research unit. Birds are being trapped, banded, and examined as possible carriers of viruses.

Doctors Helmut K. Buechner and Raymond E. Fosberg of MNH and Dr. John F. Eisenberg of the National Zoo are involved in continuing studies in Ceylon.

Buechner and Eisenberg are studying the movements, behavior, and habits of the Ceylonese elephant to learn what will be useful in establishing reserves to protect the hard-pressed species.

Tropical biologist Fosberg is leading an investigative team studying the vegetation on which the elephants depend for survival in that southeast Asia country.

Dr. William H. Klein, director of the Radiation Biology Laboratory, has set up sophisticated and sensitive equipment in Israel for solar radiation measurement under the geographic and climatological conditions in that part of the world.

Smithsonian anthropologists Clifford Evans and Gus Van Beek are directing studies in Iran, Pakistan and Ceylon of rapidly disappearing crafts and industries, reflecting techniques dating back to 4,000 B.C.

An oceanographic sorting center was established in Tunisia under the program. MNH oceanographers are also working with Israeli scientists in a study of marine organisms moving between the Mediterranean Sea and the Indian Ocean through the Suez Canal.

In the administration of the over-all Smithsonian program, special emphasis has been placed on supporting archeological and other projects in countries where American institutions have had minimal previous opportunity for investigation. This was a prime factor in establishment of the American Academy of Benares in India through a grant to the (continued on page 2.)





"The staff of the Division of Musical Instruments of the Smithsonian Institution consists of a group of dedicated, solemn, cheerless musicologists." Or did, until Charles Addams came into their lives.

The above cartoon in the "New Yorker" so charmed the Division that Mrs. Helen Hollis opened a light-hearted appeal to him for the original with the

above statement. Several months later Addams replied that "Somehow your letter about the bass viol got mislaid under a pile of old theremins. I did find the original of this and will send it along."

As a result, the Division, still dedicated but no longer solemn and cheerless, can point to the cartoon on its wall as one of the most unusual items in the musical collections.

## Foreign Currency Program

(continued from page 1.)

American Institute of Indian Studies at Poona, a research center administered by the University of Pennsylvania.

"We look upon this as a very challenging and essential project," says William W. Warner, director of the Smithsonian's Office of International Activities. "Experts have long maintained that the archeology and art history of India are so rich that often the most difficult question is where to begin."

"The Benares Academy seeks to answer this question by conducting long-range surveys which will document, record, and photograph ancient temples and both above-ground and below-ground archeological sites throughout India as a prerequisite to the determination of intelligent research priorities."

"By helping to meet a need which might well not be met otherwise, the Benares program in its subject area is typical of the orientation of our efforts around the world across a full spectrum of scholarly research."

As the Smithsonian's Foreign Currency Program has evolved, the Institution has received many expressions of interest and support from American scholars, the Congress, and the United States Embassies abroad. Ambassador Chester Bowles, in a letter to Secretary Ripley, urged the Institution to become more and more involved in promoting archeological studies in India.

Professor Robert Adams, director of the Oriental Institute of the University of Chicago, characterized the program as "an important breakthrough in funding overseas research in archeology and related disciplines."

The man responsible for conduct of the program under Mr. Warner, Kennedy B. Schmertz of the Office of International Activities, looks upon it in these terms:

"Among other things, the Foreign Currency Program helps to fulfill a much

needed demand for the study of changing cultures and conditions that can provide insight into what is happening in the rapidly changing world that we live in today and will be living in tomorrow."

## A & I Changes

(continued from page 1.)

ter. However, no timetable has been established. Frank A. Taylor, director of the U.S. National Museum, has expressed the hope that even before the renovation the West Door can be opened and the park area restored, leading to indoor-outdoor events.

Booking for special exhibitions will be handled by Mr. Taylor's office. First consideration will be given to exhibitions of museum objects sponsored by Smithsonian units. Activities sponsored by outside groups must be approved by an appropriate curator.

The space formerly occupied in A & I by the Petroleum and Steel Hall has been in other use since late summer and will house a SITES show of German posters through Christmas Eve. The old Textile Hall is currently being adapted for "The Lower East Side: Portal to American Life (1870-1924)", sponsored by the Jewish Social Service Agency, which opens December 17. It will be followed by an exhibition of contemporary military art gathered by the National Armed Forces Museum Advisory Board.

The rotunda will be retained as a lounge area used on occasion for exhibitions of a special nature. It has been put to a variety of uses recently including a sales exhibition of Eskimo art, commemorative display on the Erie Canal, and a performance by the Gregg Smith Singers.

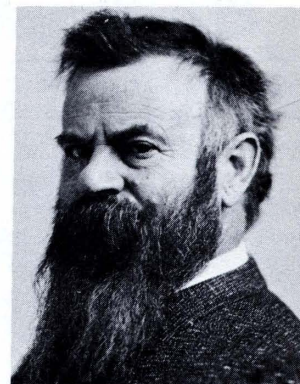
Other special exhibits staged in the building have included a National Co-op Month display and sale, and exhibitions from the Paris Air Show.

NASM, of course, continues to use A & I for some of its most important exhibitions pending construction of the new Air and Space Museum.

## Powell Centennial Recalls Scientists' Contributions

The 100th anniversary of Major John Wesley Powell's pioneer exploration of the Colorado River will be observed in 1969 with a national centennial sponsored jointly by the Smithsonian, Department of the Interior, and the National Geographic Society.

In announcing preliminary plans for the celebration, Secretary Ripley said, "It is time to re-focus attention on this truly prescient and classical American hero, not only because of his great exploration into the last of the unknown and unmapped territory of the West—a stunning feat in itself—but for his accumulation of a body of scientific concepts which today serve as guides for some of the Nation's most advanced programs concerning people and their environment."



John Wesley Powell

"The imprint of Powell is everywhere throughout the pages of American science," Mr. Ripley said, noting that "at one time of his career Major Powell was both the Director of the Smithsonian's Bureau of American Ethnology and head of the U.S. Geological Survey. As such, he was undoubtedly the most powerful scientist in the Nation's Capital."

## MNH'S GEM COLLECTIONS TOPS

Shopping for a very special Christmas gift? It's a shame the 20 percent employee discount doesn't carry over from Museum Shops to the Hall of Gems and Minerals, where the selection couldn't be better.

In fact, the men directly responsible—department chairman George S. Switzer and curator Paul E. Desautels—say that in fact they have "by far the finest gem collection in any public museum in the world."

"We don't have an ostentatious display of very large diamonds like the British crown jewels," they note, but rather a collection of broad scope and high quality.

The prize specimen, of course, from both the gemologist's and public point of view, is the legendary Hope Diamond, donated by jeweler Harry Winston of New York. This diamond has been drawing millions of visitors for the past nine years, but surprisingly actually became Smithsonian property only last month. An agreement with Mr. Winston for tax purposes turned one tenth of the stone over to the Institution each year, with the final tenth in November.

"I'll always remember that date—November 10, 1958," says Dr. Switzer of the day the Hope came to SI. "I might forget my wedding anniversary, but I'll remember that. Everything else almost seems anticlimactic after it."

Unlike most of the Institution's collections, the primary purpose of the gems is for public display rather than research. To use a rare and beautiful gem like the spectacular Rosser Reeves star ruby for research would destroy its value, the men point out.



Paul E. Desautels

When adding a stone to the collection, Switzer and Desautels look for perfection, size, and rarity. Two topaz specimens recently acquired fit all three categories beautifully. Among the largest and most perfect topaz crystals ever mined, they weigh 70 and 111 pounds.

Beauty and durability are essential for a gem. Of some 2,000 mineral species, only a comparative few meet the requirements. About 20 are in common use as jewels. Perhaps 80 others could qualify, and MNH also has its share of these. Among them are andalusite, cordierite, apatite, euclase, wernerite, and orthoclase.

Visitors, generally more interested in the widely known precious stones, find much that dazzles in the Hall of Gems and Minerals. A small sampling

of important gems includes the 330-carat Star of Asia sapphire, the 127-carat Portuguese diamond, a 1000-carat green aquamarine and 155-carat white opal.

The collection's weakest spots are big rubies and big emeralds. An enormous sapphire weighing more than 400 carats already belongs to the Institution, but neither man has seen it yet. It was donated when tax laws still allowed a giver to contribute a gem appraised at current market value and not turn it over to the Smithsonian until death.

In any discussion of such valuable gems, the questions of insurance and security inevitably come up. Surprisingly, the entire collection is uninsured, because no government property is insured: "We can't even buy the insurance for items on loan, putting us in the embarrassing position of asking the lender to provide his own."

When the million-dollar Lesotho diamond was lent to the Institution by Mr. Winston last month, Dr. Switzer brought it to the presentation ceremony in his pocket—"the safest place for it," he explains. It had been brought from New York by courier the same way.

The Hope Diamond came to Washington by registered mail. But when it went to Paris on special exhibition, it made the whole trip in Switzer's pocket, and came back the same way with Assistant Secretary James Bradley.

"Reasonable security precautions" are taken with the gem collection. But maximum safety would require that the gems be locked in the vaults and not shown at all to the public—a course that has never been considered appropriate for the most impressive gem collection in the museum world.

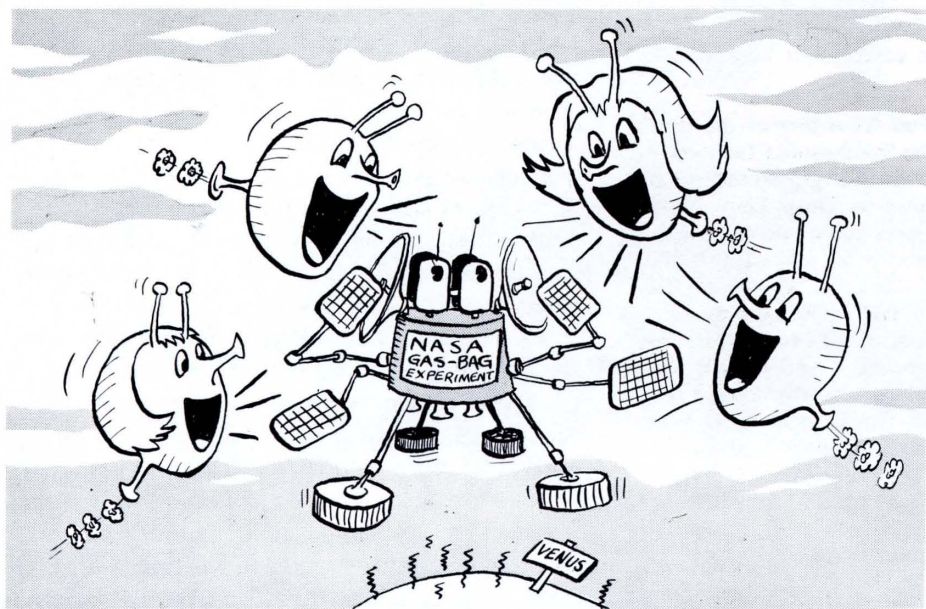
### SMITHSONIAN TORCH

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# Soviet Probe Results Support Sagan View of Venus

by Jim Cornell



## Squires Leading Delegation To Symposium in Mexico

Donald F. Squires, deputy director of MNH, will co-chair a symposium on Information Problems in Natural Sciences at the University of Mexico December 18 through 20. The Smithsonian is cosponsoring the symposium with the university.

The purpose of the symposium is to bring investigators from different branches of the natural sciences into contact with experts in computer systems to develop means of applying automation to retrieval of information on large scientific collections.

Representing SI at the symposium, in addition to Squires, will be **Nicholas Suszynski**, **Reginald Creighton**, and **James Crockett** of Information Systems, **Kenneth Ebbs**, assistant to Dr. Squires, **Stanwyn Shetler**, Botany, and **Russell Shank**, librarian.

Also traveling to Mexico this month is **Klaus Reutzel** of Echinoderms, delivering a lecture at an international symposium and visiting the Smithsonian Tropical Research Institute to discuss projects in cooperation with the Department of Invertebrate Zoology. He will return December 7. . . . **Kjell B. Sandved**, Exhibits, will be in the Canal Zone until the end of the year. He is producing color motion pictures for the Hall of Insects. . . . Other visitors to Latin America are **James A. Peters**, Reptiles and Amphibians, and **Gerald I. Stage**, Entomology, just back from the Conference on Convergent and Divergent Evolution at Caracas. . . . **Patsy A. McLaughlin**, SOSC, is in Tunisia and the Philippines until December 10, exploring opportunities for cooperative research in marine sciences and attending the Philippines-U.S. Workshop on Fisheries and Oceanography. . . . **I. E. Wallen**, Oceanography, is also attending the workshop, then visiting Indonesia

to discuss cooperative research programs in oceanography. He returns December 16. . . . NCFA's **Donald McClelland** is touring the East, stopping in India, Japan, Ceylon, Hong Kong, and Singapore to select paintings by Justin Daraniyagala for exhibition and to study art collections. . . . **Porter M. Kier** and **Thomas F. Phelan**, Paleobiology, will study the living habits of a cassinoid echinoid in New Zealand, using SCUBA gear. They will return December 22.

## Naturalists Win Aldabra Issue

Secretary Ripley and other concerned naturalists scored a great victory last week when the British Government announced it has withdrawn its plans completely to turn Aldabra, a tiny isolated island in the Indian Ocean, into a strategic air base.

Last month the TORCH reported Mr. Ripley's strong support for preservation of Aldabra, considered by biologists "the most interesting atoll in the world" because of its unique animal and plant life.

The British withdrawal marks the second time the small isle has been saved from human intrusion. In 1874 Charles Darwin blocked a proposal to install a lumber operation there. His reason was "that humans—and the dogs and cats and goats they might bring along—would quickly destroy the natural balance of life."

Mr. Ripley, nearly a century later, will tell you Darwin's reaction is still a sound one.

The startling description of Venus as a blazing oven surrounded by cool vapors relayed to Earth from the Soviet's Venus 4 space-probe surprised many scientists—but not Carl Sagan of the Smithsonian Astrophysical Observatory and Harvard.

For the past ten years, Dr. Sagan, an expert in planetary environments, has argued that the surface of Venus would be extremely hot because its carbon dioxide, water vapor, and clouds created an atmospheric "greenhouse effect." This prediction now seems confirmed by the recent Russian findings.

Dr. Sagan explains that the method of developing his theoretical picture of the Venus environment was much like that used by a detective in solving a crime.

Since 1956, Venus, our nearest and most similar planetary neighbor, has been known to be an intense source of radio emissions. Indeed, the planet emitted radiation as if it had an average surface temperature of 600° or 700° F. Most scientists, however, were unwilling to accept this thermal, or "hot surface," explanation.

Instead, many investigators suggested the Venus clouds or ionosphere as probable sources of the radio emission. Sagan, however, suspected the surface was the real culprit; and, in the style of any good detective, he attempted to test the "hot-surface" theory by seeing if the other suspects could be eliminated.

"We had wide range of radio, radar, infrared, and optical information about the planet," says Sagan. "And it seemed to me that there was enough information available to solve the problem."

"In all cases, the non-thermal theoretical models were inconsistent with one or another of the actual observations," he says. "But the idea that the radio emission was coming from the planet itself seemed to agree perfectly with all the observations."

In addition to the radio observations, Sagan found other evidence supporting high surface temperatures. For example, the radar diameter of the planet is known to be smaller than the optical diameter of the planet. Ordinary telescopes see the planet plus its clouds. Radar "sees" only the solid body. From this difference, Sagan was able to estimate the distance from the top of the clouds to the surface of Venus.

Because he knew the temperature of the cloudtops and had some idea of lower atmosphere conditions, he was able to derive theoretical surface temperatures that agreed with temperatures implied by microwave observations.

The "motive", or reason why the planet's surface should have such high temperatures, Sagan ascribed to the "greenhouse effect." The carbon dioxide and water vapor in the atmosphere act like the glass in earthly greenhouses. Sunlight passes through the atmosphere and clouds to the surface, but infrared radiation is trapped beneath the clouds, building up intense surface heat.

In collaboration with Smithsonian scientist Dr. James B. Pollack, Sagan was able to show that the "greenhouse effect" could take place if only a few tenths of a percent of water vapor were present in the atmosphere. The Soviet Venus 4 capsule reported finding just this amount of water vapor. The Russian results thus

apparently confirmed not only the high surface temperature, but the "greenhouse model" as well.

Said Sagan of the Russian report: "We spent years eliminating suspects and checking alibis until we were reasonably sure we had the answer. Now it's as if the principal suspect confessed and a half-dozen eye-witnesses suddenly appeared."

## Life Around Venus?

Although the recent investigations of Venus have apparently confirmed Carl Sagan's theory that Venus is too hot for known life-forms, he is still optimistic that a special type of creature might dwell there.

Little gas-bags which thrive on water, carbon dioxide, minerals, and sunlight may be floating in the clouds that surround the bright planet.

Sagan and Harold Morowitz of Yale University presented this intriguing idea in a recent issue of the British scientific journal, *Nature*.

While space probes have indicated that surface temperatures of the planet may reach 800°, the temperatures in the enveloping cloud layer range from 40° F at the bottom to about minus 80° F at the top—a range in which life easily could exist.

According to Sagan and Morowitz, if these clouds contain the "prerequisites for photosynthesis" (water, carbon dioxide, and sunlight) and if small amounts of minerals are blown upward from the planet's surface, then "it is by no means difficult to imagine an indigenous biology in the clouds of Venus."

One such form of cloud-life might be little, round, hydrogen-filled gas bags the size of pingpong balls or "much larger" floating "just below the Venus clouds, or in the lower cloud-deck."

These gas bags could live, they speculate, by the same kind of photosynthesis that ultimately makes possible all life on earth. Water and carbon dioxide could be absorbed from the surrounding clouds and atmosphere with minerals "captured on the sticky underside of the organism, and . . . ingested," and power for the transforming processes supplied by sunlight.

"The conditions in the lower clouds of Venus are more Earth-like than any other extraterrestrial environment now known."

"It is possible that life arose under more moderate conditions on the surface of Venus in its early history. For example, the planet may have begun appreciably less degassed than it is today, with an atmospheric greenhouse much less effective than the contemporary one."

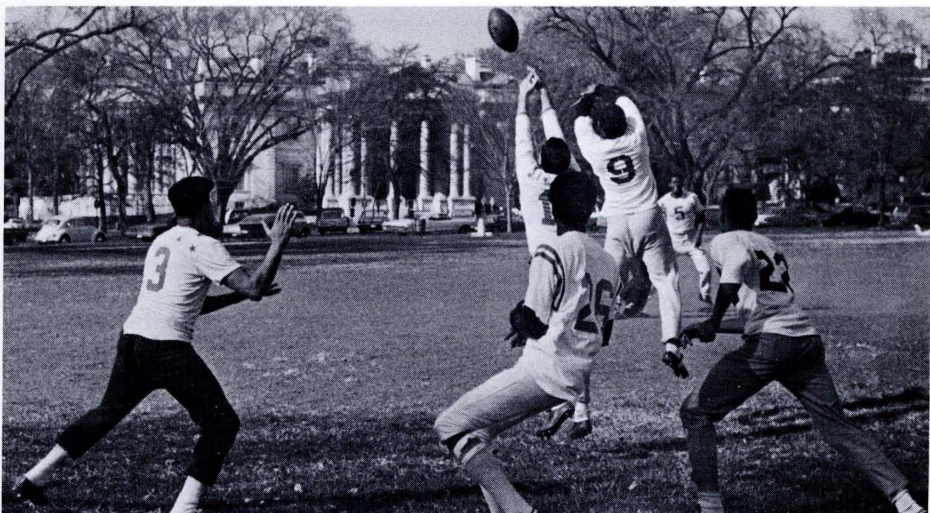
"Outgassing advanced, surface temperatures rose, and the surface became more inclement. Organisms may have then emigrated to the clouds, and may there be awaiting the first biological experiments to be performed in the vicinity of the Venus clouds."

\* \* \* \* \*

Shortly after the U.S. fly-by of Venus, it might be noted, the New York Times reported that the Mariner V had sighted some "unexplainable clumps" in the Venusian atmosphere. Could it possibly be that . . . ?



**STERLING**—Richard E. Ahlborn, left, associate curator of cultural history, uncrates a 225-piece collection of Peruvian silver never before shown in the United States. It will go on display December 20 in MHT. With him are Mrs. Sara de Lavalle, curator of Lima's Museo de Arte, and Constance Larco Hoyle, one of Peru's major collectors who loaned about 70 of the exhibition's specimens.



**VICTORY PLAY**—Smithsonian safety Teddy Mauvritte (9) breaks up a pass on the final play of a Federal Recreation League game to preserve an 8-7 victory over the Department of Labor. The SI team is in second place in the league with a 3-1-1 record. Coach is Oliver Grant of the Duplicating Section.



# Secretary Ripley Discusses Variety of SI Topics

Secretary Ripley discussed a broad range of Smithsonian topics in a recent radio interview on Station WMAL in Washington. The following is a transcript of this interview with minor editing for purposes of publication. The interview was conducted by Joseph A. La Covey of WMAL.

**MR. LA COVEY:** The Smithsonian Institution has been called many things by many different people. To some it's the nation's biggest museum, housing the artifacts and treasures of past civilizations and the gleaming metal symbols of our modern technological development. To others, the Smithsonian's exhibits appear as the dead relics of a seemingly ancient past, perfectly preserved in glass cases with controlled lighting, humidity, and temperature. But new life is beginning to stir within and around the brick and stone structures that make up this world-famous institution. Perhaps the most vivid example of this new life occurred over the 4th of July weekend last summer.

**Mr. Ripley,** last summer on the Mall certainly was an exciting and perhaps an unusual one at the Smithsonian. There were symphony concerts, barbershop quartets, and tower music; perhaps it was capped off most vividly by a four-day folklife gala, as it was titled, over the 4th of July weekend. Why did you undertake these projects for the Smithsonian Institution?

**SECRETARY RIPLEY:** I have a strong sense of history in this regard. In 1846 Joseph Henry came to head the Smithsonian. And one of the first things he noted in his little pocketbook, which he carried everywhere with him, was that if proper planting, landscaping and care of the grounds—the Smithsonian Park as it was then called—were thought about, the Mall could eventually be one of the most pleasant places to visit and view not only in Washington but in the nation. What does that mean? It seems to me that it was a significant and far-seeing approach, and remains as important today as it was in Joseph Henry's time.

I have been worried about the eventual developing of the Smithsonian's buildings, which brood in large, leonine masses along the edges of this great proposed pleasure ground, the Mall. If they brood there, marble, stone, unyielding, cold, it seems to me that they create a sense of incipient closing off and separation from the out-of-doors. One of the things which I have hoped to induce again into the atmosphere of the Smithsonian is a sense of communication between the outdoors and the indoors.

Well, something like this is rather new to the Smithsonian Institution, but I get the feeling that this is not new, that this has been done in other countries and other places in the world. Were there examples of the kind of thing that you wanted to do, that you have seen in your travels, or that you have read about or heard about?

There are lots of ways that people abroad use museums in a far more effective and exciting way than we do in this country, and this has been going on for quite a long time. America has been rather slow in all of this. In Norway before World War I there were efforts to create ethnic museums, out-of-doors museums in which people could participate, as it were, in some of the historic life in their own country by seeing exhibits of all manner and kinds of early cultural activities of Norwegians. We should have done much more of this years ago. It's one way to bring a sense of real enthusiasm and enjoyment to people when they visit "the nation's attic," as the Smithsonian has of course sometimes been called. What's more fun on a rainy day than to go and play in Grandmother's attic?

How were these proposals of yours received by the public generally before you undertook them? What sort of response did you get from the people in the community when you went to them with ideas like this, when you started getting together people to play the instruments, the symphonic groups, the barbershop groups?

The people who play and who are concerned with reviving or stimulating traditional musical themes and the development of the history of music in this country are of course excited by the idea of utilizing some of these marvelous instruments. We have one of the best historical instrument collections in the country given to us many, many years ago, partly by the Wurlitzer family and company, and here they were sitting gathering dust and cobwebs not being used, partly because we had no space to develop their use until we got the new building, the Museum of History and Technology. Now

that we have them, a small amphitheater and an outdoor space, the perfect moment has arrived to use them and the excitement has been genuine and very great.

I would like to read a section from one of the press releases that was sent out by the Smithsonian Institution. It reads "Getting in touch with the grassroots artists from such out-of-the-way places as Deep Gap, North Carolina and Arizona Indian reservations demanded the assistance of state police, Interior Department Indian Agents and even the Alaska Airways. Collecting finished products for display and sale required a nine-day truck trip through the back country of North Carolina, Kentucky, Tennessee, and Georgia." And then it went on to say that two special problems you had were with wool and cornshucks. To demonstrate their crafts weavers needed fleece and cornshuck dollmakers had to have shucks. This indicates to me quite an extensive preparation that went into this 4th of July folklife festival. How was it received by the public?

I was thrilled by the reception by the public. It was one of the perfect antidotes to so much that went on last summer that was full of tension and stress in the country. Our folk festival was an example of the sort of thing that people can do thoughtfully and creatively in a long hot summer. Some 480,000 people came to this four-day festival and one of the delightful things about it was the tremendous sense of quiet and peace and gentle contemplation in the people who came to watch. We received literally hundreds of letters from people in all kinds and conditions of life saying what a pleasure and a relaxation it was to see real Americans doing real things with their hands—crafts that stem back to the roots of our culture. There is something enormously rewarding and revitalizing in an experience of this sort. No stress, no tension, just a deep sense of peace and a sense of reality, too.

I'd like to go inside the Museum for a moment and again read from one of your press releases a section that I thought was awfully interesting. It was talking about an exhibit that you have in the new museum and it said that "The main emphasis of the exhibition is on how the ships are located and their cargoes recovered. Three divers in modern gear conduct a salvage operation in a life-like scene which dominates the Hall. One of them is suspended from the ceiling swimming above two working on a realistic ocean floor. The scene is made even more life-like by blue-green lights which ripple over the hall in watery motions."

This suggests to me a little bit of the theatrical and a little bit of drama are going hand-in-hand with the exhibitions that are being constructed. Is this again part and parcel of what you are talking about in involving the public, perhaps not directly but indirectly, in making them feel they are part of an exhibition, a part of an exhibit that they are watching?

Yes. Of course, we are lucky in the Smithsonian; we have one of the most imaginative and talented exhibits staffs in the world. And of course we attempt to utilize their ideas and their knowhow to the full. It seems to me that audience participation, even in exhibits, should be thought about and encouraged to the greatest extent.

We have been developing "smellies" and "feelies" and things of this sort associated with the exhibits. If you see an exhibit of an old candy store, perfectly preserved, you shouldn't feel that the chocolates in the glass cases are old. There should be a little scent of chocolate. We worked on this for about two years and we finally got chocolate scent which comes to you about 25 feet away as you approach the model of the Nineteenth Century candy store.

And, of course, most of all the great Southern Railway locomotive should speak. This is a terrible thing that that great locomotive sits there like a dead hulk and doesn't say anything. And another two years of research has produced a recording of exactly what that locomotive says when it decides to get up and leave a railway station. Think how many children today are going to be missing that; they are going to grow up without that marvelous chug-a-chug noise and then finally that little whistle as it goes away down the tracks.

Our people have got this and other things of this sort going and it makes the most incredible difference in the reaction of the audiences who throng our building.

Are there any future plans that you have along these lines; I think the examples you gave are fascinating. Are there some other areas in which you intend to do some-

thing a little bit different, a little bit unusual that will spike the audience interest a little bit more?

Well, we've been thinking about the area of the exhibits that have to do with man, halls that are developed and worked on by anthropologists. And I feel that this is a very exciting, challenging possibility. There should be ways in which we can exhibit themes that have to do with man's culture, like religion and cultural activities in general. We should have group social activity somehow shown, and not simply through mannikins sort of stuffed-looking, sitting about holding up objects.

There should be some way by which we could have almost a kinetic display with lights and tapes and sound effects, to give the impression, and of course, the smells—to give the impression of a particular ceremony, let us say a tribal ceremony, a religious ceremony in the past. I'm thinking, of course, of tribal groups in the South Pacific, in parts of the world where less and less remains of the old cultural patterns.

We shouldn't just approach these from the point of view that these are somehow primitive people, or people with less education than we have, for example. We've gotten away from the old days, of perhaps looking down on less civilized races. To make a museum of man today we should have everybody pretty much out on the stage and exposed, shown in their cultural origins and their cultural evolution.

What is your staff reaction, then, to these projects? I imagine they have kindled a spark of ingenuity and a real challenge in the people faced with the job of carrying out these thoughts and these ideas.

Well, I'm simply evoking the spirit and attitude and imagination of the exhibits staff as I speak to you. This is the sort of thing they want and are interested in. Anything experimental, anything that will heighten the sense of communication between them and the objects and the public is, of course, tremendously important because exhibits are educational. They are for public instruction, for education, and neither the staff nor I ever forget that. We constantly worry about how to meet this obligation.

As you plan ahead for the coming years, what do you think is going to be the biggest problem that you will face in putting into reality some of these thoughts and plans? Do you think it's going to be lack of public reaction or lack of Congressional sympathy, or what?

I'm sure that the public reaction will be very favorable and very friendly. Congress has always felt that the Smithsonian had in effect received a mandate from it to do many of these sorts of things in research, public education and instruction. Congress views the Smithsonian as its own creation and is very proud of it. So I'm encouraged in general by the friendliness and the attitude both from the public and from Congress towards these activities. We all share the desire to move ahead, to progress across the range of human knowledge.

Let's talk a little bit about what plans you have formulated in your own mind for the future. You've gone through a highly successful period with the folk festival and music and all these other activities we've talked about. Are there any new projects that you are envisioning for the Smithsonian and for the Mall?

I think more of the same in general. We have a Free Film Theater that is very popular and will be increasingly effective. It's rather a sophisticated film theater. We present films both in the evening and during noon hours when workers in the government buildings near us can have some time off and join our other visitors.

I would like to develop a series of lectures which we could have during some of these noon hours. As you know more and larger buildings are pressing around us on either side of the Mall. Considerable new construction is going on in Southwest Washington, which will mean that each noon hour thousands more colleagues and associates of ours, civil service workers in the Government and others, will be coming out in their luncheon hour looking about for something to do. We have a real opportunity, I think, to serve a most important purpose through lectures on interesting subjects and free films that are available during these interludes in their busy lives.