



# THE SMITHSONIAN TORCH

Smithsonian Institution, Washington, D.C.

No. 6 December 1970

## Frank Taylor, SI's 'Mr. Museum' Retires

By Bill Craig

Frank A. Taylor, Director General of Museums and Director of the U.S. National Museum, will retire early next year after 48 years with the Smithsonian, a career that he began in 1922 at the age of 19.

Several hundred present and former Smithsonian employees honored Mr. Taylor at a farewell party December 10 in the Flag Hall of the Museum of History and Technology.

In brief ceremonies, Secretary Ripley noted that Mr. Taylor has become "Mr. Museum" at the Smithsonian, and has an international reputation as one of the foremost experts on museology. In recognition of Mr. Taylor's professional stature, the Secretary announced the establishment of an annual lecture series at the Institution devoted to subjects of interest to the museum profession, and named in Mr. Taylor's honor. He said a number of contributions have been received for such a museology lecture fund.

Secretary Ripley presented Mr. Taylor with a scroll from the Smithsonian Board of Regents expressing gratitude for Mr. Taylor's outstanding record of service to the Institution, and with a set of bookends made by the Buildings Management Department of stone from the original Smithsonian Building.

Mr. Taylor expressed his appreciation for the "dedicated, sincere, con-

scientious help" given him by Smithsonian staff members over the years, and concluded:

"I wish you all and the Institution the greatest of success and prosperity and good fortune for the future, and I thank you very much."

Although his formal retirement is imminent, Mr. Taylor is expected to continue his association with the Smithsonian as a consultant to Secretary Ripley on special projects.

The following profile of the distinguished museum authority was written two years ago by *Evening Star* reporter Herman Schaden when Mr. Taylor was given the Smithsonian's highest award, the Joseph Henry medal. It was the first time a Smithsonian employee had ever received the honor.

By Herman Schaden

It has been half a century or more since a Washington boy named Frank Augustus Taylor first visited the Smithsonian Institution, not to explore its museums, but to pedal his bicycle over the labyrinth of paths that beguiled youths of that day.

The youngster must have pedaled to the right place. Tomorrow the Smithsonian honors Taylor with its highest award, the Henry Medal, for 46 years of service during which he rose from a laboratory apprentice to director of the U.S. National Museum.

Slender and dapper at a youngish 65, endowed with vocal chords pitched an octave lower than Cesare Siepi's, Taylor has earned the soubriquet of "Mr. Museum" for a number of accomplishments.

(Continued on page 3.)



Photo by Al Robinson

Mr. Taylor

## Dr. Stern To Head Freer

Dr. Harold P. Stern has been appointed director of the Freer Gallery of Art, succeeding Dr. John Alexander Pope, who is retiring on August 7, 1971, after 28 years at the Freer. Dr. Stern has been associate director of the gallery since 1962, when Dr. Pope became its director.

Dr. Stern, 48, is a native of Detroit. He received a bachelor of arts degree in political science from the University of Michigan in 1943, a master of arts degree from the Center for Japanese Studies at that university in 1948, and a doctor of philosophy degree, also from Michigan, in the field of Japanese art history in 1959.

Dr. Stern worked in the field of military intelligence in World War II. He was a teaching fellow at the University of Michigan in 1948, a lecturer at the university in 1963, and is presently an honorary lecturer in Japanese art at that institution. He was the first recipient of a Freer fellowship in 1950, and has been on the staff of the gallery since 1951.

Dr. Stern has served as a consultant in connection with Japanese and Korean government loan exhibitions, as an advisor on the Hauge exhibition at American University, and as a consultant for the city of San Francisco on the Brundage Collection in the M. H. De Young Memorial Museum. He has served as an advisor on the International Editorial Committee for *Ukiyoe* magazine, Tokyo, and as an adviser to the Washington Print Club. He has also served as a member of the Expert Committee of UNESCO for the preparation of an exhibition and an album on the mutual influence of Japanese and western arts. He has lectured at principal universities and museums in the United States, Europe and Japan, and is the author of numerous works dealing with various aspects of oriental art.



## Goldberg's Inventive Wit Comes to MHT

By Mary Krug

With a light approach that reflects the man, the Museum of History and Technology has brought the delightful world of cartoonist Rube Goldberg to the public for six months.

"Do It the Hard Way: Rube Goldberg and Modern Times" covers every aspect of the man's genius: his cartoon "inventions," his comic strips, political cartoons, songs, books, and sculpture. Objects from the Smithsonian collections bring to life the times he satirized and reflected.

MHT Director Daniel J. Boorstin, who conceived the exhibition, said of Goldberg, "In the earlier days of American gadgetry—when the automobile was a curiosity and when the telephone and the incandescent light had not yet become universal—Rube Goldberg saw the direction in which we were meandering. He foresaw the road to the electric toothbrush. . . . While other Americans were earnestly and single-mindedly trying to 'simplify' their lives

with all kinds of novel machinery, Rube Goldberg saw that man had never yet invented a simplifying machine that did not also (in a thousand unforeseen ways) somehow complicate. . . .

"Of course we fail to get Rube Goldberg's point if we become too solemn and too self-conscious about what he has to tell us. But one plain reason for showing his work and for interpreting and advertising his 'message' in MHT is that he really has delivered to us some sharp and durable truths."

"Rube Goldberg observed the shaping of the twentieth century from his New York City vantage point. He unwittingly kept in cartoon form an 'American journal' of events, attitudes and major preoccupations during the teens, twenties, and thirties," notes Ann Golovin, who curated the exhibit.

Focal point of the show is a picture snapping machine every bit as complicated as its cartoon counterpart. The life-size, working model, which takes color polaroid portraits of anyone willing to pay \$1, was

constructed by Donald Holst and Robert Klinger in the Model Shop. They also created a signature machine that, through another series of "A-B-C" actions, stamps Rube Goldberg's signature on hand-out leaflets.

Rube Goldberg, 87, died of cancer December 7, two weeks after being honored at the Smithsonian and the White House on the opening of his exhibition.

Daniel J. Boorstin, Director of MHT issued the following statement on the death of Rube Goldberg:

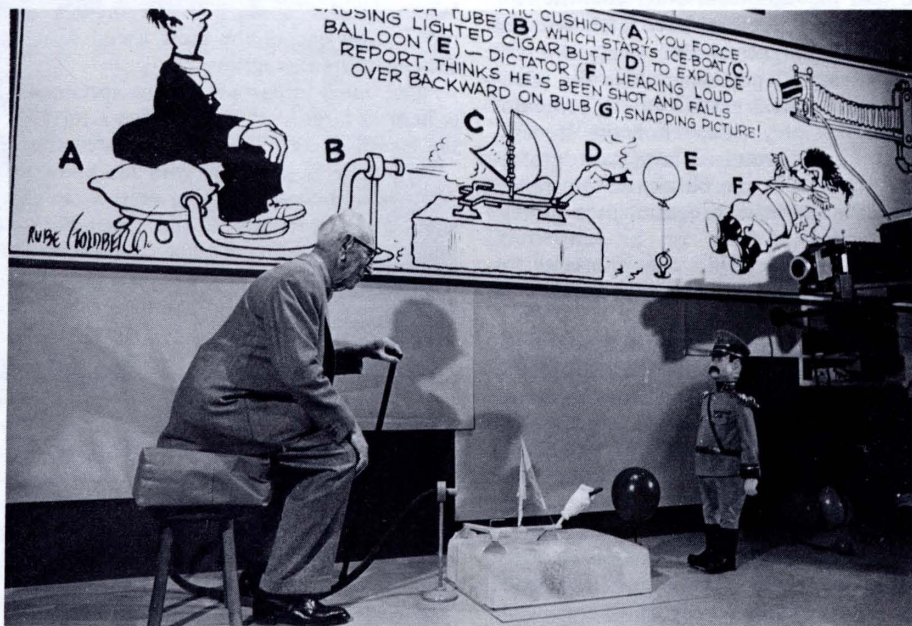
"The world will miss Rube Goldberg. For two-thirds of a century he helped his fellow Americans discover what it means to be an American. He made technology into fantasy. He was a shining example of versatility, energy, and inventiveness, and he had the most remarkable of all qualities in a genius, the capacity not to take himself seriously.

"We who knew Rube Goldberg will never cease to be cheered by the fact that there could have been such a man. He will take his place in the tradition of Mr. Dooley, Mark Twain and Will Rogers, of those who help us see the world in proportion.

"We at MHT are happy that we gave him a measure of the recognition due him, as a wit, an artist, and a prophet, while he could know that the world enjoyed his work. The last question Rube asked me spoke his message and his mission. When I reported to him that crowds were coming to see the exhibit of his work at our museum, he asked, 'Are they laughing?'"

Robert Widder designed the show, in a very unsubtle hot-pink and orange color scheme. Sections of the show are labeled with styrofoam replicas of the convention "balloons" used in comic strips.

(Continued on page 4.)



Rube Goldberg gets set to do it the hard way.



# SAO Reflector Dedicated

By Jim Cornell

On September 29, in a special ceremony held at the 7600-foot level of Mt. Hopkins, SAO officially dedicated its new 60-inch reflecting telescope to the memory of the late Carlton W. Tillinghast, Jr.

More than 100 guests, including members of the Tillinghast family and representatives of other major observatories, heard Smithsonian Undersecretary James Bradley recall his long friendship with this young executive who served as SAO's Assistant Director for Management from 1960 until his death in 1969.

Mr. Bradley called Carl Tillinghast "one of a new breed of young men created by the Space Age, known as administrators for science, who understand and respect science, who realize both the potential and limitations of research, and who temper their technical skills with humanism."

After dedicating the telescope as the "Tillinghast Reflector," Mr. Bradley asked Mrs. Suzanne Tillinghast to unveil a plaque commemorating her husband and to push a button on the electronic console that would start the telescope's drive motor.

## Potential

The new 60-inch reflecting telescope on Mt. Hopkins will be used for photoelectric spectrophotometry, that is, the measurement of the energy distribution in the light from the planets and stars.

"Although a 60-inch telescope is relatively modest-sized by today's standards," says Dr. Fred Whipple, Observatory Director, "we think some of its engineering and design innovations make it particularly noteworthy. Moreover, its potential contributions to planetary and stellar astronomy are exciting."

Since its official opening October 1968, the Mt. Hopkins Observatory has become the major field facility of the Smithsonian Astrophysical Observatory.

## Ritterbush Leaving SI

Philip Ritterbush has resigned as Director of Academic Programs in order to devote himself fulltime to problems of institutional change. As Chairman of Organization Response, a non-profit educational corporation, he will endeavor to promote response on the part of major institutions to the social concerns of youth, while also assisting talented young professionals in developing careers devoted to the newer social needs of universities and research establishments. The Organization will consist of a number of correspondence networks of referees and advisors in various areas of social concern. Mr. Ritterbush has begun work on two books, one on manpower mechanisms in the institutional sphere and the other on changing institutional patterns as they relate to social needs.



**HEADS SI PRESS**—Gordon Hubel, formerly director of the University of Pennsylvania Press, has assumed the post of Director of the Smithsonian Institution Press, succeeding Anders Richter, who has accepted a position as vice-president for program development of the Franklin Book Program. Prior to assuming the directorship at the University of Pennsylvania in 1966, Mr. Hubel, 44, was social science editor and later general manager of the Princeton University Press.



Dr. Whipple talks with the Tillinghast Family.

The new 60-inch telescope is the most recent instrument to be installed at Mt. Hopkins. Other instruments include a satellite-tracking camera, a laser ranging system, a 34-foot optical reflector, and a host of smaller conventional telescopes and meteorological instruments.

Current research activities at Mt. Hopkins include optical and laser satellite tracking for geodetic and geophysical studies, spectroscopic observation of both stellar and planetary bodies, gamma-ray astronomy, and environmental studies.

Mt. Hopkins is located 40 miles south of Tucson in the Santa Rita Range of the Coronado National Forest. Although the 4744-acre site includes the 8585-foot summit, most major instruments are located along a ridge at the 7600-foot level.

## Luncheon Is Served

The Commons touch has come to Smithsonian dining. For \$2, SI staff members and Woodrow Wilson scholars can enjoy a buffet luncheon under a star-spangled ceiling in the new Smithsonian Commons, formerly the old chapel of the SI Building. The buffet is catered by Hot Shoppes. Serving hours are 11:30 a.m. to 2 p.m.

## Peace Corps—SI Cooperating in Ecology Project

The Peace Corps and the Smithsonian have joined in a worldwide environmental and natural resources development program designed to assemble teams of volunteers to work together on large ecological projects in foreign countries.

The SI's Office of Ecology will help the Peace Corps study the feasibility of projects submitted by various countries and also recruit volunteers needed for the projects from post-graduate schools in the biological sciences and natural resource management area.

The program is part of a broad Peace Corps effort to move into new and more diverse fields, corps' director Joseph Blatchford said at a press conference announcing the project on October 27. He said that requests from other countries for Peace Corps volunteers have lately stressed the need for higher skills.

Discussing SI participation in the scientific and technical aspects of the program, Secretary Ripley said, "For the student, this program promises important professional benefits. It can be seen in the framework of a graduate program, as a professional apprenticeship or an important phase of post-doctoral work, preparing for a greater contribution overseas or back in the United States."

Two projects to establish national park systems have already been mapped for Colombia and Costa Rica, stressing development of fishing resources, improvement of water quality, harvesting of timber and soil erosion prevention. Needed for these jobs will be a variety of skilled personnel including park planners, agricultural economists, ecologists, conservationists, landscape architects, park superintendents, fish and wildlife managers, watershed managers, wood technologists and forestry managers.

## About SI People

### Wilton Dillon Honored

Wilton S. Dillon, SI anthropologist, has been elected a member of the board and also as secretary of the trustees of the Phelps-Stokes Fund of New York. Dr. Dillon served from 1957-63 as executive secretary and director of research of the Fund, one of the oldest in the United States devoted to education of American Indians, poor whites, and blacks in the United States and Africa. He also was recently elected as a Vice-president of the board of the Institute for Intercultural Studies, Museum of Natural History, New York City, an organization founded by Dr. Margaret Mead to administer, among other activities, the literary estate of the late Dr. Ruth Benedict.

### Weighty Adventure

If Silvio Bedini or Fred Whipple offers you the moon, accept it. Bedini, Assistant Director of MHT, and Whipple, Director of SAO, are two of the three authors of a major new book on earth's satellite, *Moon: Man's Greatest Adventure*. It is major in size (12 x 15-1/4 inches) and price (\$45) as well as content. Published by Abrams, the well known art publisher, it boasts 149 full-color illustrations.

The book is made up of three essays, on the moon's place in culture and mythology, by Bedini; of its astronomical history, by Whipple, and of the Apollo program, by NASA's Wernher von Braun. Said one reviewer of the 9 pound, 4 ounce volume, "This is definitely not a coffee table book, it's a coffee table." Quipped another, "Some books are hard to put down. This one is literally hard to pick up."

There's nothing like a little light reading for the holidays.

### Wetmore Award

Former Smithsonian Secretary Alexander Wetmore has been awarded the Cornell University Laboratory of Ornithology's Allen Medal "for his influence in widening popular interest in birds through his long association with the Smithsonian and the National Geographic Society, and for giving generous encouragement and thoughtful assistance to so many aspiring ornithologists, both professional and amateur."

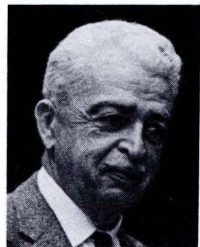
### SI On Moon

The late SAO scientist Imre Izsak is one of 545 distinguished men commemorated by the recent assignment of their names to craters on the moon. Joseph Henry, first SI Secretary; and Samuel Pierpont Langley, third SI Secretary and founder of the Astrophysical Observatory, were also chosen by the International Astronomical Union's Working Group on Lunar Nomenclature. The list of men, most of whom are assigned to the moon's previously unnamed backside, includes many of the greats in astronomical history, as well as the more modern names of Astronauts Grissom, White, and Chaffee who died in the fatal Apollo fire of January 1967.

### Liebman Appointment

Samuel Liebman, Deputy Chief of the Physical Science Division in the Science Information Exchange has been appointed a Member-at-Large of the U.S. National Committee for the International Council for Building Research, Studies and Documentation (CIB). The appointment is for a three-year term with the Committee, which is operated under the auspices of the National Research Council, National Academy of Sciences—National Academy of Engineering.

### Chapelle 'Exceptional'



Howard Chapelle, the Institution's first and only Senior Historian, has received yet another mark of distinction. The marine historian has been presented the Smithsonian Institution Award for Exceptional Service.

Granted by the Secretary, the award is the Smithsonian's highest. It is given for "exceptional performance of duty and extremely significant contributions which have served to promote the basic purpose of the Institution."

"His contributions have been so significant that it is unlikely that any future histories of American merchant or naval fleets can be written without reference to Chapelle's writings," says John M. White, Chairman of the Department of Industries. "In the specialty of historical sailing ship design he is without peer."

Chapelle, who began his career as a marine architect and came to the Smithsonian in 1957 as an established historian, will retire in February. He will probably continue to do research at MHT in an emeritus or honorary capacity.

During his tenure at SI Mr. Chapelle "initiated a program of model building, repair and documentation that has made our collection one of the richest in the world," Mr. White noted. "Some 200 new models were built. A handsome published catalog (and incidentally one of the most useful summary ship histories available) resulted from the documentation program."

"Our most important marine specimen, the Revolutionary War gun boat *Philadelphia* is here in large part through the efforts of Mr. Chapelle. Long years before he came to the Smithsonian (1939) he suggested the preservation of this historic vessel."

"Chapelle is generous with his knowledge as the rebuilders of the *Santa Maria*, the *Niagara* and countless other vessels can report. When necessary he will take an unpopular stand as the partisans of the *Constellation* can, as well, report. Few curators can match his public service record nor could other staff members claim an equal number of friends won for the museum by Chapelle's selfless and open response to requests by visitors and correspondence," White asserts.

### Degree Conferred

Dr. Wilcomb E. Washburn, Director of SI's American Studies Program was awarded an honorary Doctorate of Letters at a special ceremony inaugurating the new president of St. Mary's College of Maryland in October. St. Mary's College is one of the participating institutions, along with the St. Mary's City Commission and the Smithsonian through its American Studies Program, in a long-range study of the early history of St. Mary's City, Maryland's 17th-century capital. The project will involve archaeological excavation of some of the more than 100 sites revealed by infrared aerial photography in the area, a detailed examination of the architectural history of 17th-century Maryland, and studies of the social, economic and political history of the area.



# An MNH Entomologist in the Pacific Taylor

By Tom Harney

The manner in which insect life colonized the vast island chains of the Pacific is a question that has long intrigued scientists.

It is well known that rats, mice and other small vertebrate creatures that are found on the some 7,000 islands of the Pacific have arrived by way of ocean currents on floating debris, or on boats. The establishment of bird populations is no mystery because of their ability to fly thousands of miles. But insects are another matter. They do not ordinarily travel great distances.

Nevertheless, insects are known to have immigrated millions of years ago to the islands and once there, some have evolved into separate species. It is still a matter of conjecture, though, where they came from and how they got there.

Interested in these puzzles, an MNH entomologist, J. F. Gates Clarke, has been making visits to the South Pacific for almost two decades to survey the insect life, focusing in particular on small moths.

His is a fresh field because, in spite of the fact that scientists have been visiting the Pacific for more than 200 years, there is little knowledge of these moths, even on better known islands like Tahiti.

The 1924-25 British St. George Expedition surveyed Pacific butterfly and moth populations but little attention was given to the small moths (microlepidoptera).

One of the places where the St. George scientists stopped to collect was Rapa, a craggy, dramatically beautiful, volcanic island, 800 miles southeast of Tahiti. They found 17 species of small moths which

Clarke says "was just enough to titillate the imagination about how they got there."

## Storm

Dr. Clarke made his first attempt to reach Rapa in 1961. He hired a diesel-powered sail boat in Tahiti to make the trip but soon after departure, ugly squalls struck, tearing off the boat's galley, navigation lights and a life boat. Then the navigator, a Tahitian, got lost. They cruised aimlessly for two weeks before making a landfall at a small island far from their original destination. When they finally got back to Tahiti they learned that they had been given up for dead.

The next cruise to the island two years later was successful. Dr. Clarke took along his wife, Thelma, and settled down among the island's 300 natives for three months.

They collected more than 5,000 moths and butterflies during their stay. Among this number were 130 separate species, the preponderance of which were new to science.

Dr. Clarke had a hunch before he went to Rapa that he would find that its moths might be related to the moths found in South America. Instead, he found a strong connection between Rapa's moths and those in New Zealand, Australia and New Guinea.

These areas are thousands of miles away but it is thought that the insects may have been picked up in cyclonic disturbances and distributed. There are still unanswered questions, however. One scientist has pointed out that the odds are one in 10,000 that a pregnant insect could be caught in

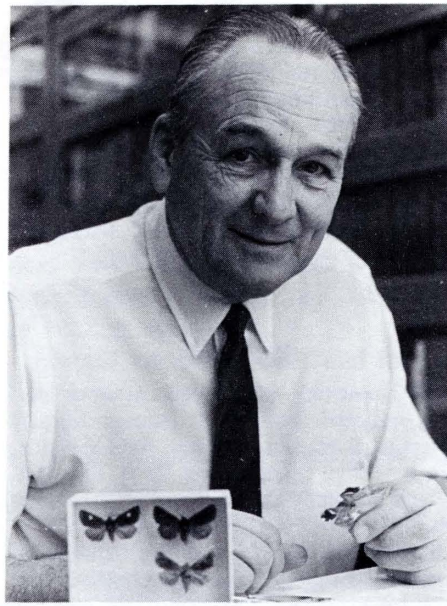


Photo by Al Robinson

Dr. Clarke

such winds and survive. Certainly if moths make such trips, they could not be the fragile little creatures they are often thought to be.

Dr. Clarke's descriptions of the moths and butterflies of Rapa are to be published by the Smithsonian Press in early 1971 in a publication entitled, "The Lepidoptera of Rapa Island." He has returned to the Pacific on two other occasions to collect in Borneo, Ceylon, Tahiti and the Marquesas, bringing back to the National Museum of Natural History the best study collection in the world of Pacific moths.

see them pop in your face!"

The only limit to size of bubbles is the capacity of the oven for heating. They can also, with the aid of molds or plates, be any shape. Usually they are hemispheres, although the bubble men are experimenting right now to find the proper configuration for holding model fetuses for the Hall of Health.

When not blowing bubbles, O'Connor and Bobart are producing the other plastic items needed by the Office of Exhibits. These cover an incredible range not apparent unless you go looking for them—exhibits cases, signs, transparent shelving, unobtrusive barriers, brackets and other hangers, labels, and even fill-in replacements for missing parts in display objects.

In fact, Bobart and O'Connor may be the only two men in the Institution whose output you could say is inflated and not be insulting about it.

## NCFA Sets Up Grant Program

By Ben Ruhe

A research program in the history of American art for young scholars from across the country has been established by the National Collection of Fine Arts.

Begun this fall under the direction of NCFA Director Dr. Joshua C. Taylor it is being coordinated by Dr. Lois Fink, who holds a doctoral degree from the University of Chicago in the field of 19th century American art.

Dr. Francis V. O'Connor, who received an art history doctorate from Johns Hopkins University and specializes in the art of the New Deal and of Jackson Pollock, is Senior Visiting Research Associate.

Five Visiting Research Associates have been given grants, in most cases for one year, from the Smithsonian to pursue research on doctoral dissertations. The Fellows are:

- \* Robert Hunter, of Princeton University, whose topic is "Stuart Davis in the 1930's";

- \* Richard Murray, of the University of Chicago, investigating "Figurative Mural Paintings in the United States: 1880-1920";

- \* Shelley Fletcher, of New York University, doing research with conservator Charles Olin of the NCFA, and preparing a dissertation on "Pigments in 19th Century American Paintings," with a focus on the work of George Inness.

Arriving in January will be:

- \* Phyllis North, of the University of Delaware, to research "The Early Works

## Taylor

(Continued from page 1.)

The public probably will remember him longest for the Museum of History and Technology, which he envisioned and saw through from conception to realization. But he also had a major hand in transforming the Smithsonian from an institution without an exhibits staff to one noted for its attractive displays.

"When I came here in 1922 the Arts and Industries Building really was the Nation's Attic—the First Ladies' Gowns packed in with the airplanes and military equipment," Taylor recalled. "It was the neighborhood museum of its day, a place for the Southwest people fighting their way up from poverty."

"At that time the center of interest was natural history. But Carl Mitman, whom I succeeded as head curator in engineering, thought there should be a museum of science and industry."

After Mitman left, Taylor began a long fight to put substance into the dream for a Museum of History and Technology, the first of its kind in America. It was nearly 10 years from his first proposal until Congress saw the light in June 1955. He got up booklets picturing the deplorable condition of the Nation's Attic and sketching the bright hope of the future.

## A Believer in Luck

"I'm a believer in luck and I must say everything was just right the day we finally got on the right track. It was a beautiful April day and a couple of staff people from the House Public Works Committee decided to see for themselves what the building site was like."

"They succeeded in interesting the committee chairman, who just happened to be a Civil War buff, which did not hurt either. He at first was reported as seeing no chance for the bill, but reported it out anyway, and the next session of Congress appropriated \$36 million."

Most of another 10 years found Taylor immersed in the detailed planning of the handsome marble building. Before its doors opened in January 1964, he could recite chapter and verse of everything that was to go into its 48 halls.

Taylor also saw it that the edifice contained more than the physical evidence of America's civil and technological progress. Recognizing a glaring gap in the history of science and technology, he recruited curators and research scholars who have been contributing to a growing catalog of attractive, scholarly publications.

A leader in the International Council of Museums, Taylor has devoted much of his energies in recent years to aiding the establishment and improvement of other museums. In addition to 1,000 requests for help in this country each year, the Smithsonian staff has a worldwide commitment.

Taylor's trouble-shooting has taken him to Korea, Iran, Mexico, India and other countries to share with developing museums his practical experience.

## Born on Capitol Hill

Born in a home his grandfather built on Capitol Hill, since usurped by a Senate parking lot, Taylor went through old McKinley Manual Training High, where his physics teacher required that students take a Bureau of Standards mechanical engineering exam.

Taylor must have done all right. The Smithsonian asked if he wanted a job, he accepted and has been there ever since while taking engineering and law degrees from George Washington, MIT and Georgetown.

For one year he taught mechanical engineering at Catholic University. One of his students, as coincidence would have it, was James C. Bradley.

"Thirty years later the Smithsonian was looking me over as a possible assistant secretary," Bradley recalled. "I heard this deep bass voice and asked the source of it—'Didn't you teach at Catholic in 1928?'"

That's how Mr. Museum and the Smithsonian's present first assistant secretary were reunited after three decades.

of Max Weber and His European Sources";

- \* William D. Morgan, of the University of Delaware, to research "The Architecture of Henry Vaughn."

## MHT Bubbling with Exhibits

By Mary Krug

Lawrence Welk should provide the background music when Charles Bobart and Eugene (Pete) O'Connor do their thing. O'Connor and Bobart are bubble blowers.

The two MHT exhibits specialists are not forever blowing bubbles, however, and their creations are not pretty bubbles in the air. They are plastic forms used to encase items for display.

Bubble blowing is just one of the techniques the two exhibits specialists use in their continuing efforts to have their work go unnoticed. Like other exhibits production staff members, they consider it a job well done when only the specimen, and not its casing, is obvious to the public.

Bobart and O'Connor, who are part of the staff of the MHT plastics lab, are both

experienced bubble blowers. Each got his start during World War II, working on airplanes. The techniques they have picked up do not, however, carry over to balloons or bubble gum for their children; plastic bubbles are machine made, and are a two-man production.

All the bubbles start out life as squares of acrylic sheet. The sheet is heated to 450 degrees and then placed over a compressed air blower. A wooden form with an opening cut in it for the general shape of the bubble is clamped quickly on top. The trickiest part of the bubble blowing is to get everything accomplished before the plastic cools.

Like other bubbles, plastic bubbles will pop if not properly blown. This makes their job fascinating for others to watch, says O'Connor—"they're just waiting to



Charles Bobart turns on the bubble machine.



# Woodrow Wilson Center Opens to Scholars

By Mary Krug

The Woodrow Wilson International Center for Scholars, after a two-year gestation period, has hatched a batch of fellows.

The Center, one of SI's youngest bureaus and the nation's official "living memorial" to the 28th President, has appointed 28 advanced scholars—from the United States and nine other countries—as fellows during the Center's first year of activity. A large portion of the group is already on board, using newly renovated facilities in the SI Building.

The majority of the scholars are doing research in one of two areas: development of international understanding, law and cooperation in ocean uses, and man's overall relations and response to the deteriorating environment. Others are working in more general areas of international, governmental and social problems.

The scholars are working on individual projects, but with considerable interaction. They have, for example, formed a working group on human values and the environment that meets regularly for discussions.

The Center is quartered on the third and fourth floors of the SI Building, in offices created in the space that had once been the Herbarium. In addition to offices, the scholars have use of a Victorian-appointed library and the new Commons for dining.

The Center was established by Congress two years ago, on October 24, 1968, to be "a living institution expressing the ideals and concerns of Woodrow Wilson . . . symbolizing and strengthening the fruitful relation between the world of learning and the world of public affairs."

The Center was set up within the Smithsonian under the administration of a separate, Presidentially-appointed Board of Trustees. The Board, subsequently appointed by President Johnson and President Nixon, includes eight private citizens and seven public officials. Hubert H. Humphrey serves as chairman. Secretary Ripley is a member of the Board.

## "Exciting"

"It is exciting, of course, to launch any new national institution," notes Center Director, Benjamin H. Read, "but this one has a special significance. It is the first official national memorial to a President that is a living institution rather than a bronze statue or marble edifice. America's most illustrious 20th century scholar-Presi-

dent is best remembered 50 years after his presidency for his search for international peace and imaginative new governmental approaches to the pressing problems of his day. We think it especially appropriate to dedicate this institution in his honor to the closer application of scholarship to the solution of some of the major problems confronting mankind now and in the years ahead.

"The capital area, with its many public and private libraries, universities and collections, and many persons with past and present experience and responsibilities in public affairs from many nations, is the ideal location for such a center of advanced studies. It is our hope, and our expectation, that the scholars who participate in our program will make a substantial contribution to the intellectual life of the city," Read added.



Mr. Humphrey and Mr. Read greet a scholar.

The Wilson Center is the outgrowth of a proposal by the Woodrow Wilson Memorial Commission, appointed by President Kennedy in 1961. Its final report recommended a center for scholars in downtown Washington.

Planning for the Center, which is supported by both private and public funds, got started in the spring of 1969 with a grant from the Ford Foundation that made possible the first staff appointments. Subsequent support and assistance has come from the Xerox Corporation, Andreas Foundation, the IBM Corporation, the New York Times Foundation, the Arthur D. Little Foundation, the Occidental International Foundation, the Riggs National Bank and the National Endowment for the Humanities, as well as several individual donors. The Center received a \$100,000 Federal appropriation in the last fiscal year and \$750,000 in the current fiscal year.

A distinguished international Advisory Committee, chaired by Mr. Peter McCollough, president of the Xerox Corporation, which includes as honorary members the heads of government of Canada, the Federal Republic of Germany, Japan and the U.K., exists to counsel the Center and to assist its development.

Woodrow Wilson fellows are appointed for periods ranging from a few weeks to more than a year. They are provided with office space, clerical and other services, essential living expenses, and access to the research facilities of the Smithsonian and other area institutions and programs. A small information center service will assist resident and transient scholars to locate area intellectual resources, programs and experts.

## Benson's Ostracodes Prove Continents Drift

By Bill Craig

The first fossil evidence indicating the extent of an extinct ocean destroyed by drifting continents has been discovered by MNH paleontologist Richard Benson and a British colleague.



The evidence they have uncovered bolsters the theory that the floor of the Atlantic and Indian Oceans extended between the Eurasian and African continents for many millions of years, and that the oceanic extension was brought to an end about two million years ago when the Alps were forming, Africa was converging on Southern Europe, and the Iberian peninsula was swinging southeastward as a gate into its present position across the western entrance into the Mediterranean Sea.

According to the currently accepted "continental drift" theory, the outer layers of the earth are made up of "plates" which are slowly moving in relation to one another over deeper subterranean layers. The theory was out of favor at one time, but new facts uncovered in recent years, including evidence that the floor of the Atlantic Ocean is spreading, have led to a general acceptance of the theory by scientists.

Now, the first biological evidence from the deep ocean has been verified by Dr. Benson and Professor Peter C. Sylvester-Bradley of the University of Leicester in England. The evidence evolved from their studies of ostracodes—microscopic ocean-dwelling creatures related to crayfish and lobsters. The fossilized outer skeletons of these tiny crustacea, each about the size of a pinhead, have been deposited in rock layers spanning environmental and geological changes through hundreds of millions of years.

Since the early years of this century, scientists have known that a major shallow body of water they called the "Tethys Sea" lay for 200 million years across what is now the southernmost part of the Eurasian

continent. Many fossils of marine animals that lived in the sea have been recovered from rocks around the Mediterranean Sea. The present Mediterranean is a very strange body of water, scientifically speaking, because it is too deep for a sea and too warm for an ocean. The curious conditions that prevail at present, and the disappearance of the Tethys Sea prompted a special interest by scientists in the past oceanography of this region.

## Support

Assisted by grants from the National Science Foundation and the Smithsonian, Dr. Benson has been examining rock samples in the MNH collections taken from the mountains of Eastern and Southern Italy and from Sicily, as well as cores taken from the world's deep ocean floor. In photographs obtained by means of a scanning electron microscope, he and Professor Sylvester-Bradley have discovered many details in the fossilized skeletons of prehistoric ostracodes that were identical to those found in specimens from a wide range of samples from modern ocean depths. Fossil ostracodes discovered several hundred meters above sea level in Calabria were found to be almost identical to creatures now living in the Atlantic and Indian Oceans and in the Gulf of Mexico at depths of 1,000 to 3,000 meters. This discovery indicated that there had once been a major extension of the world ocean in the area, rather than the shallow sea which scientists thought had overflowed the Eurasian and African continents in the past.

Further examination of ostracodes in rock samples taken from the mountains in Cyprus, Crete and the Southern Alps gave additional evidence of a deep ocean in the Mediterranean area during the later Mesozoic and the Cenozoic geologic eras—that is, from the Age of the Dinosaurs several hundred million years ago to about two million years ago when the modern Alps were formed and the Ice Age was beginning. With the destruction of the Tethys deep ocean environment at this time, most of the ocean floor animals, including the ostracodes living there at that time, became extinct throughout the region.

Therefore, the scientists say, their evidence supports the theory that the Mediterranean today is a relic of an ancient ocean which has been gradually narrowed by the converging edges of the continents. The fossil remains show that the region lost its oceanic environment about two million years ago, as Africa was pushed closer to the underside of Europe, the Iberian "gate" pivoted down to block the shrinking Tethys from the widening Atlantic, and mountain barriers rose around the basin to bring climatic changes.

Professors Benson and Sylvester-Bradley presented their findings to other scientists at a forum on the ancient ecology of ostracodes held recently at Pau, France. The tiny animals are of commercial interest because their fossils, found in well-drillings on land and in the sea, assist geologists in the discovery of petroleum reserves. Other findings discussed at the meeting included fossil evidence from Austria that dovetailed with the findings by Professors Benson and Sylvester-Bradley.

## SMITHSONIAN TORCH

Published for Smithsonian Institution personnel by the news bureau of the Office of Public Affairs, Room 107, SI Building. Editor of this issue was Tom Harney.

## Rube

(Continued from page 1.)

A short film to accompany the exhibit, which features an interview with the cartoonist, was written by Benjamin Lawless and produced by the Exhibits Film Laboratory. Peter Marzio developed the catalog accompanying the exhibition.

Mr. Goldberg attended the opening of the exhibition and, though unable to speak, wrote a speech that was read by his sons. He concluded, "I want to thank you all again for putting me together in this fabulous exhibition and I hope that time will serve your noble effort in my behalf. God has indeed been good to me and I thank you all for working beside Him to make this one of the great occasions of my life."



Photo by Harry Neufeld

**SUPERVISORY COURSE**—Taking part in an SI Supervisory Development Program taught by Stirling S. Rasmussen of the Office of Personnel and Management Resources from Oct. 26-29 were seated (left to right) Jackie Dulaney, Toni Smith, Stirling Rasmussen, Gladys Harris, Bertha Sohn. Standing (left to right) Clifford Boocks, Henry Baltimore, Ernani Menez, Alfred Brock, Karl Jurack, Edgar Gramblin, Hubert Ray, Roy Perry, John Spinner, Vincent J. Doyle (Director, Office of Personnel and Management Resources). Participants missing from picture: John Moreci and Richard Ahlborn.