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Visual arts of Africa. The Warren M. Robbins Library at the Smithsonian's National Museum of African Art—a major resource center in the United States for the research and study of the visual arts of Africa—maintains a fast-growing collection of more than 2,000 files on contemporary African artists. Although most of these artists are living and working in Africa, the library also collects information on African artists worldwide. Individual files may contain gallery brochures, exhibition announcements and invitations, price lists, press releases, reviews and newspaper clippings. No other library in the United States is developing or maintaining this type of collection. A sampling of exhibition announcements and gallery brochures for 21 African artists from 11 countries is available at this Smithsonian Institution Libraries Web site. A complete list of the Libraries' vertical files on African artists also can be found here.—www.sil.si.edu/ondisplay/afa-vf/intro.htm



A brochure for the Goodman Gallery in Johannesburg, South Africa, promotes an exhibit of works by Sam Nhlengethwa.

Family-friendly. With 17 museums and galleries, nine research centers, the National Zoo, collections of more than 143 million objects and dozens of fascinating exhibitions, getting a handle on a place as big as the Smithsonian Institution can be daunting—particularly for youngsters. With this in mind, the Smithsonian Center for Education and Museum Studies has created a kid- and family-friendly



Web portal that makes it easy to get to know the Institution. Begin your introduction by clicking on a category—"Everything Art," "Science & Nature," "History & Culture," "People & Places"—and be transported to dozens of Smithsonian Web sites designed with kids and families in mind. Create modern art at the Hirshhorn Museum and Sculpture Garden Web site. At the National Museum of American History Web site, learn to build a sod house just as the pioneers did. Or at the National Zoo's Web site, put together a jigsaw puzzle featuring animals from the Zoo. There's even a section for teachers, complete with lesson plans, field trips and publications that can be used in the classroom.

Learn about Smithsonian exhibitions that are currently traveling around the United States or museum activities in Washington, D.C., via this portal to the Smithsonian's many educational resources.—smithsonianeducation.org

Everyone can discover and learn at the Smithsonian Education Web site.

Inside

Smithsonian Research

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On the cover: This image is of the obverse, or back, of The William Lawrence Saunders Award, a medal for achievement in mining. Made of cast white metal and measuring about 3.5 by 2.6 inches, the 1926 medal was created by American sculptor Anthony de Francisci and is among a number of medals in the collection of the Smithsonian American Art Museum. See story, Page 10.



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Hanging planes dazzle visitors at new facility

Rising up from the fields just beyond the end of runways 1R and 1L at Washington Dulles International Airport, the Aviation Hangar of the Smithsonian National Air and Space Museum's new Steven F. Udvar-Hazy Center is a massive steel building 300 yards long, 10 stories high and 248 feet wide.

First-time visitors walking the cavernous entryway into this new facility might well wonder how to navigate such a massive space—that is, until they spot the perky “Little Stinker,” a sporty red-striped Pitts Special S-1C aerobatic biplane. Suspended overhead and upside down, just as pilot Betty Skelton was fond of flying her, this whimsical 1946 plane seems to say, “Come on! Follow me!”

A few steps further and the air is alive with more than two dozen classic planes darting, swooping and rising through the hangar: A 1941 shark-jawed Curtiss P-40E Warhawk banks in a 45-degree dive. A 1944 F4U Corsair, its landing gear down, comes in for a landing on an imaginary aircraft carrier in the South Pacific. And a 1934 Bowlus Senior Albatross Falcon, a fragile glider of rich honey-toned wood, floats along on air.

(continued)

The Pitts Special S-1C “Little Stinker” is hoisted into position at the Steven F. Udvar-Hazy Center. (Dane Penland photo)





Planning and revision

This one-of-a-kind display at the Udvar-Hazy Center is the result of years of planning by a team of museum experts who painstakingly mapped the location of dozens of airplanes at three different levels—two suspended from the ceiling and a third on the floor. Using scale models and 3-D architectural software, some 50 different arrangements were considered before the team was satisfied.

“Our goal was to be sure every artifact had at least one vantage point offering visitors an intimate view,” Exhibition Designer William Jacobs explains.

Enhancing the view is the fact that many of the planes hang at angles. This technique, explains Dik Daso, curator of modern military aircraft, lets visitors see more of each plane. “By tilting and turning an aircraft, more of the top and bottom of the wings is visible. It also adds beauty and motion.”

Attitude of flight

For the Smithsonian, accuracy is everything, explains Dorothy Cochrane, one of several Air and Space Museum curators who made certain that the aircraft at the Udvar-Hazy Center were hung in realistic postures or attitudes of flight.

“Before we acquire an aircraft, we get as complete a history of it as possible,” she says. “What did it do? Who flew it? What type of military action did it support?”

Cochrane’s knowledge of the Loudenslager Laser 200, for example, led her to have it suspended vertically, its propeller pointed to the ceiling—a familiar position for an aircraft that won seven U.S. National Aerobatic Championship titles. The Laser hangs just 5 feet from a second-tier walkway, where visitors can see every detail of its colorful exterior and peer into its cockpit.

In World War II, the Curtiss P-40E Warhawk was used mostly for ground attack, says Don Lopez, Air and Space Museum deputy director and a former P-40 pilot. “That is why the museum’s P-40 is hung starting into a slight dive and at a slight bank. You’d get the wing down to look out and pick out a target on the ground. Then, you’d go into a steeper turn and steeper dive and go down to attack.”

The Corsair, used in World War II and the Korean War, hangs in a turn, but with its landing gear and tail hook down. “The nose is so long on that airplane that you can hardly see around it,” Lopez explains. “Banking into the final approach, a pilot had to look down over the wing for the landing signal officer on the carrier deck.”

Bolts and brackets

Determining a plane’s position is one thing; devising a way to hang it in that position is another. Museum Specialist Al Bachmeier and a team of museum engineers, mechanics and restoration specialists worked out the details of how to safely

suspend thousands of pounds of aircraft over the heads of trusting tourists.

The museum’s standard is a “five-times safety factor,” Bachmeier explains, meaning each aircraft is suspended by materials that can bear five times its weight.

After locating an aircraft’s center of gravity—which is normally about one-third of the way back from the leading edge of the wing—the team pinpointed load-bearing structures on the aircraft where stainless-steel suspension cables could be attached, such as factory lifting points; landing gear; or the support beam, known as a spar, that runs the length of the wing.

“Our first rule is to tolerate no degradation of the object,” Restoration Specialist Bob McLean points out.

In the case of the aerobatic 1941 Monocoupe 110 Special “Little Butch,” for example, “we replaced the four main bolts that attach the wing to the plane and replaced them with longer bolts,” McLean says. “Using the extra room on the bolts,



Our first rule is to tolerate no degradation of the object.

we then fastened a suspension assembly equipped with mounting ears. Cables were then attached to these ears.”

If an access panel had to be cut or drilled to connect a cable, a replica was created and used instead of the original, which was removed, tagged and stored, McLean says.

Finding an airplane’s center of gravity is essential to ensure each support cable bears its share of the weight. For the 1936 Grumman Gulfhawk-22, another aerobatic plane, McLean consulted factory blueprints to be certain of the plane’s center of gravity.

Cranes and cables

Finally, to hang the aircraft, workers used bucket lifts to suspend pre-measured cables from some of the 19 steel trusses (each of which can support 20,000 pounds) that span the Udvar-Hazy Center’s domed roof.

The design team did such a thorough job of pinpointing each plane’s position

that construction workers were able to weld the metal connecting links, from which the aircraft now hang, to the trusses while the trusses were still lying on the ground.

After hoisting an aircraft into position with slings and a construction crane, the cables were securely attached. Then the aircraft’s weight was gingerly and gently transferred to the cables. “At that point, there’s no room for error,” Jacobs says.

Both Bachmeier and McLean agree that the most difficult plane to hang was Art Scholl’s de Havilland DHC-1A Chipmunk, a star of 1970s air shows. After untold hours devising a way to suspend the plane in a 75 degree left bank with a slight nose-down attitude, they concluded on installation day that the two slings designed to lift the Chipmunk to the ceiling could not do the job. A second crane was brought in to help raise the aircraft and gently lower it into position.

More to come

It will take another three or four years to complete the installations at the Udvar-Hazy Center, suspending more aircraft from its 11 remaining empty trusses.

For now, Cochrane can’t wait to get Bob Hoover’s 1972 Rockwell Shrike Commander aloft. “Hoover is a legend in his own time, a well-known ambassador for aviation,” she says. He used this business aircraft for aerobatics, flying deadstick—engines off—inverted, completing an eight-point roll and a 180-degree turn into a smooth landing.

“When people see the inverted plane, they’ll understand and appreciate Hoover’s signature maneuver,” Cochrane says with a smile. “And some will say, ‘I remember that.’” ❖

—Barbara Wells and John Barrat



Above: The aerobatic de Havilland DHC-1A Chipmunk was hung in a 75 degree left bank with a slight nose-down attitude. Here, a museum employee covers the plane in plastic prior to the center’s opening. (Photo by Carolyn Russo)

Far left: Visitors to the National Air and Space Museum’s new Udvar-Hazy Center use elevated walkways to get a closer look at the many hanging planes in the facility, including the F4U Corsair and Curtiss P-40E Warhawk at center. (Photo by Dane Penland)

Left: Workers use a scissors-lift to raise a Nieuport 28C, an aircraft developed in 1917 and used during World War I, into position. (Photo by Dane Penland)



Historian focuses in on Hollywood's extraordinary personalities

Break out the popcorn and take an aisle seat. The Smithsonian's National Portrait Gallery—that august institution filled with paintings of founding fathers and presidents—is going Hollywood. Or, more appropriately, Hollywood is coming to it.

Among its recent acquisitions is an oil painting of actress Katharine Hepburn by Everett Raymond Kinstler, one of America's pre-eminent portrait painters. Donated by Kinstler last year after Hepburn's death in June, it was Portrait Gallery Historian Amy Henderson who nourished Kinstler's idea to give it to the Smithsonian in homage.

Since the 1970s, Henderson has been helping National Portrait Gallery curators boost their collections of caricatures, posters, photographs and prints of Hollywood luminaries and present exhibitions on contemporary and popular culture.

"Our growing collection of movie images is a terrific statement about the vari-

ety of people we think have had an impact on American culture," she says.

Now Henderson is working on a book highlighting these portraits, *Star Quality: A Hollywood Portrait Gallery*, due to be published in 2005. In it, she examines "not just the stars, but directors, producers, moguls, designers, writers and others—all the fascinating personalities that built the movie industry."

Star Quality will open with director Cecil B. DeMille, actor Charlie Chaplin and actress Mary Pickford, then follow the motion picture industry right up to present-day megastars, including Meryl Streep and Jack Nicholson, and directors, such as George Lucas and Stephen Spielberg. In between, Henderson plans to cover the likes of Bette Davis, Lena Horne, Walt Disney, Shirley Temple, Alfred Hitchcock and Woody Allen.

"Our country has been captivated by the movies and fascinated with movie celebrities since film was first slapped on

the wheel more than a century ago," Henderson says. "Movies show us how to dress, how to talk, how to act. They reflect what's going on in our culture and are a wonderful social chronicle."

Two levels

Portraits do not come easily into the collection of the National Portrait Gallery, once described as "the only place in America where American culture can be read through the faces of the people."

Before an individual's portrait is acquired, "a judgment must be made on

This watercolor (detail) by John Decker is a study for a mural installed in Hollywood's Wilshire Bowl restaurant in 1941. Depicted here are, from left, Bob Hope, Joe E. Brown, Charles Winninger, Marlon Brando, Greta Garbo, Clark Gable, Shirley Temple, Humphrey Bogart, W.C. Fields, Mae West and George Arliss.



two levels: the biographical significance [of the sitter] and its quality as a work of art,” Henderson explains. “Just as there are presidential and Civil War historians working here, my research field is movies as a cultural chronicle of modern American life and culture.” She gladly focuses on the personality angle and leaves the art history to the gallery’s curators.

After a portrait is acquired, Henderson continues to flesh out biographical details of its subject, as well as the circumstances surrounding the sitter’s career at the time an image was created. Decades of studying and writing about hundreds of film and stage personalities have made her an astute authority of America’s entertainment history.

For example, in a recent article on costume designer Edith Head, Henderson pointed out that Head was a pioneer despite working at a time that saw both the heyday and demise of Hollywood’s highly competitive studio system. She “flourished, in that fluctuating atmosphere,” Henderson writes, “proving herself perfectly capable of the kind of ruthlessness, arrogance and self promotion necessary for success. But perhaps the key reason Edith Head succeeded was a supreme ability to make herself essential.”

Hepburn

Movie posters and books on Hollywood personalities and history fill Henderson’s office. These tools are indispensable, yet like any good historian, Henderson prefers interviewing her subjects in person. “Hollywood icons are the primary ‘documents’ of my research, just as more traditional historians use letters, diaries and other texts to weave their stories.”

Through meetings, interviews and casual conversation, Henderson has earned the confidence of such legends as dancer and actress Ginger Rogers; director-writer Garson Kanin; and Katharine Hepburn, the Academy Award-winning star of the “The Philadelphia Story” and “The African Queen.”



This 1982 oil-on-canvas portrait of Katharine Hepburn, by Everett Raymond Kinstler, was the actress’ favorite portrait of herself. (Images courtesy National Portrait Gallery)

Henderson first met Hepburn in 1988, when the historian was invited to the actress’ row house in New York City to view Hepburn’s portrait collection. “She was shorter than I expected, with the bluest eyes I’ve ever seen,” Henderson recalls.

Henderson returned many times for coffee and conversation, taking notes and absorbing information about Hepburn’s life and career. “It was an illuminating chance to observe the personality of a legendary movie star...what drives her, how she invented her persona and how she maintained that image, how she constructed her career and managed to get what she wanted,” she says.

On one New York visit, Henderson first saw the Hepburn painting at Kinstler’s art studio. Hepburn later told Henderson it was her favorite portrait.

In *Star Quality*, Henderson is working to show readers a larger picture of how movies gave voice and vision to American culture. “And the way I get ‘at’ meaning,” she says, “is to look at the people who shaped the movie industry. Personalities are a fascinating perspective on culture. The Portrait Gallery’s angle is on extraordinary personalities, but with a humanity that still keeps them accessible to us mere mortals.” ♦

—Janice Kaplan and John Barrat

Smithsonian ornithologist corrects century-old mystery of Tibetan bird

By Michael Lipske

Special to Inside Smithsonian Research

The little brown bird was living a lie. Hopping about amid the rocks and grasses of the Tibetan plateau, digging for insects in dirt and clods of yak dung, *Pseudopodoces humilis*, or Hume's ground jay, had masqueraded as the smallest member of the jay and crow family since it was described by scientists in 1871.

But recently, the bird's true identity was revealed in an article published in *Ibis*, the journal of the British Ornithologists' Union. Despite its long legs, pale plumage and long downcurved bill, Hume's ground jay is no jay at all. Rather, it is a member of the tit and chickadee family: birds with short, conical bills common in forests and woodsy suburbs of Europe and North America—Paridae to bird experts.

In birding circles, the discovery was big news. "It's a dramatic thing for a bird to be moved from one family to another," explains Helen James, chief author of the *Ibis* article and an expert in bird anatomy at the Smithsonian's National Museum of Natural History.

By closely studying beaks, bones, feathers and other physical characteristics of birds collected from around the world, James and her colleagues are working to nail down the evolutionary links among all birds. Someday, ornithologists hope to "reconstruct the evolutionary tree that joins all birds together," James says.

In the case of Hume's ground jay, environment and evolution conspired to bestow upon it an appearance that fooled scientists for more than a century.

"It's a dramatic thing for a bird to be moved from one family to another," explains Helen James.



Morphology transformed

Created when the Indian subcontinent collided with the Eurasian plate, the Tibetan plateau is geologically youthful—"the high steppe habitat is only about a million years old," James explains. Long ago, an ancestor of *Pseudopodoces humilis* came to live on this dry, treeless plateau. Over time, it adapted and evolved into a bird that no longer resembled any living tit or chickadee. Externally, "its morphology was transformed beyond our ability to recognize it," James says.

Because of its strong resemblance to birds belonging to an Asian genus of ground jay, *Podoces*, the bird was classified among this group. But despite its similarities—pale plumage, long downcurved bill and long legs—there also were marked differences. For example, other jays in the genus were larger, had prominent white wing patches and built exposed stick nests. Hume's ground jay was smaller and, like the tits and chickadees, built nests of grass and moss in cavities. Both birds rarely fly, but true ground jays are fleet runners. Hume's ground jay is a hopper.

Fused vs. open suture

James began investigating the case of the misclassified tit in 1998, after other ornithologists cast doubts about its family credentials. She began by studying the skull of a Hume's ground jay from the National Museum of Natural History collection. Observing the skull through a dissecting microscope, she looked for the sort of discrete characters—such as



*Externally,
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James says.*

whether two bones are fused together or separated by an open suture—that anatomists use to analyze relationships among species.

The characters she identified were unlike those of any of the bird families she was most familiar with—finches, crows, thrushes and a number of island birds known only from fossils. She next decided to compare the skull with museum specimens from a variety of other bird families.

“It was serendipity,” James says, that the first skull she examined came from a great tit, a much-studied species native to Europe and Asia. It was a good choice. Even though the ground jay and great tit don’t resemble one another externally and have differently shaped bills, they share a surprising number of skull characteristics.

Next, James compared *Pseudopodoces* skeletons with those of a number of other birds species. Osteological data suggested that, indeed, the ground jay had been misclassified and belonged among the tits and chickadees.

DNA analysis

But James wanted further evidence. She requested DNA tests on the bird from colleagues Per Ericson, a former postdoctoral fellow in the Natural History Museum’s Department of Zoology and now a curator of ornithology at the Swedish Museum of Natural History in Stockholm, and Beth Slikas, former Smithsonian postdoctoral fellow and now the manager of a molecular biology laboratory at the University of California at Berkeley.

Ericson and Slikas each performed independent tests on the evolutionary history of *Pseudopodoces* based on sequences of genes—the nuclear *c-myc* and mitochondrial cytochrome *b* genes—commonly used in phylogenetic studies of birds. Evidence from these tests also points to a close kinship with the tits and chickadees.

“Our results indicate that *Pseudopodoces* is actually an evolutionary branch of the family of tits and chickadees—a very unexpected result,” James says. In fact, the bird’s closest relative appears to be the well-known and well-studied great tit.

This new understanding of its evolutionary history, James says, opens the door to “further comparative studies of the behavior, physiology and life history of this most aberrant of tits.” ♦

Above: This illustration shows just how much the bird known as Hume’s ground jay (center) resembles the Xinjiang ground jay (bottom). Hume’s ground jay is, in fact, more closely related to the Turkestan tit (top). This drawing accompanied Helen James’ reclassification of Hume’s ground jay, published in *Ibis*, the journal of the British Ornithologists’ Union. (Illustration by Julian Hume)

Far left: Examining and comparing specimens from the National Museum of Natural History’s collection of birds, Ornithologist Helen James discovered that Hume’s ground jay was no jay at all, but, in fact, a member of the family of tits and chickadees. (Photo by James DiLoreto)

Medal collection occupies interesting realm between art and currency

By Michael Lipske

Special to Inside Smithsonian Research

One of the largest paintings in the collection of the Smithsonian American Art Museum in Washington, D.C., “Grand Canyon of the Yellowstone,” is 8 feet high and 14 feet wide. Artist Thomas Moran worked and reworked this colorful landscape for seven years. Since its acquisition in 1928, it has been a favorite of visitors—perhaps because it gives the impression one can step inside and walk around.

Not all artworks at the museum enjoy such adoration, however. In fact, some have never even been on public view. Case in point: the odd discs of bronze, copper, silver and gold that make up the museum’s little-known collection of commemorative medals. Many are the work of some of America’s finest sculptors. As for their beauty, flip a coin. “Some are breathtaking,” observes Chief Curator Eleanor Harvey. “Some are not.”

Visitors will be able to make their own assessment of these treasures when the Smithsonian American Art Museum reopens in 2006, following the renovation of the Patent Office Building, its historic home. Thanks to a \$10 million grant from the Luce Foundation, many of the medals are to be rescued from the oblivion of the storeroom and put on public view for the first time. They will debut with some 4,000 other artworks, rarely seen by the public, in a series of glass display cases.

Industry and art

Traditional medals, like coins, are mostly flat and circular and bear relief renderings



Above: Sculptor Paulanship created an equestrian scene for the front of this bronze Jeanne d'Arc medal in 1915. This medal measures nearly 3 inches in diameter.

Far right: An unidentified child was used as the model for this unusual medal, titled “Portrait of Murray,” designed between 1925 and 1930 by sculptor Anthony de Francisci. The purpose of this medal, just 3 inches in diameter, is unknown.

of mythical figures, captains of industry and old soldiers. Some offer allegorical scenes, like the A.D.T. Burglary and Fire Protection Medal, by Joseph E. Reiner, with its bas-relief of a kneeling Greek soldier, his shield raised protectively against a backdrop of flames that threaten a modern city.

The United Parcel Service 50th Anniversary Medal sports the profiles of four stern-visaged company founders on the medal's front and a boxy 1937 UPS truck on the reverse.

The 1926 William Lawrence Saunders medal for achievement in mining is a cast white metal rectangle with a nude female figure kneeling amidst a rocky landscape.

Both the Saunders and the UPS medals are the work of Anthony de Francisci, a sculptor who also designed the famous 1921 Peace Dollar, a silver U.S. coin commissioned to celebrate the end of World War I.

Commissions and committees

Clients for de Francisci's many commemorative medals included corporations, as well as universities and professional societies. Creating for such organizations was no walk in the park. Artists were often fettered by rigid requirements imposed by a sponsoring organization.

"In most cases, an artist had to put someone's profile on the medal's front," Harvey explains. "The backs are the most interesting. It was there that an artist had the most freedom to create."

Medal design committees could be hard to please. For a 1926 United States Steel Corp. medal, de Francisci created and cast five variations for the medal's reverse. Each is a different detailed rendering of men at work. Squeezed onto a brass disk measuring little more than an inch across, these industrial scenes represent de Francisci's multiple attempts to create a winning design.

"There are a lot of annoying pragmatic reasons," Harvey says, "why medals, even those created by gifted sculptors like de Francisci or Paul Manship, sometimes come up short as great art."

American sculptor Paul Manship, who may best be known as creator of the 1934 Prometheus Fountain at Rockefeller Center in New York, also has a number of medals in the Smithsonian American Art Museum collection. Like de Francisci, Manship designed medals for a range of clients, from the Carnegie Corp. to the U.S. military.

A 1919 U.S. Navy Distinguished Service medal designed by Manship is in the collection, as is his 1916 St. Paul Institute medal, its warm red-brown rendering of a mythological figure the result of an acid wash—a process called patination.

Among the 152 medals in the collection are the American Heart Association medal, designed by Reiner; the United Fruit Co. medal, designed by Manship; and the 1922 British-American Cup medal, designed by de Francisci.

Scholarly inquiry

Harvey hopes that the medals scheduled for the exhibition she is now preparing will intrigue regular museum visitors and also grab the attention of more specialized audiences, including numismatists (students of currency, such as paper money and coins) and art historians. Neither group has tended to focus much on medals as a subject of scholarly inquiry.

In the case of numismatists, that lack of attention may be due to the fact that medals don't make the cut as money. Art historians, Harvey believes, may have problems with the uneven quality of medals. Medals produced after World War II, Harvey says, just don't have the same look and high quality.

What is clear, however, is just how many of the museum's medals stand out as objects of true beauty. Working on scant surfaces, laboring under constraints of limited depth and color, struggling against the restraints of a committee, medal artists still managed to sculpt many lifelike scenes rich in symbolism and satisfying as art. ♦



Thanks to a \$10 million grant from the Luce Foundation, many of the medals are to be rescued from the oblivion of the storeroom and put on public view for the first time.

African American Museum. On Dec. 16, 2003, President George W. Bush signed legislation to create a new National Museum of African American History and Culture as part of the Smithsonian Institution.

The museum will be devoted to the documentation of African American life, art, history and culture. Structured and administered like all other Smithsonian museums, this new museum will be under the ultimate governance of the Smithsonian's Board of Regents in all respects.

The legislation gives the Regents one year to choose among four Washington, D.C., sites for the museum. It also requires that the Regents appoint a 17-member advisory council, within six months, and a director. The Smithsonian's ability to begin this project is largely

contingent on the receipt of federal funds.



A jaguar from the Kenneth E. Behring Family Hall of Mammals

Mammal Hall. A sloth hanging from a branch in a South American rain forest, a North American spotted skunk preparing to defend itself and an African giraffe drinking from a water hole are three of the many animals on display in the new Kenneth E. Behring Family Hall of Mammals at the Smithsonian's National Museum of Natural History.

Encompassing nearly 300 specimens and fossils, the exhibition offers a journey



President George Bush signed H.R. 3491, the National Museum of African American History and Culture Act, in the Oval Office on Dec. 16. The act authorizes the creation of a Smithsonian museum dedicated to the legacy of African Americans in America.

through four continents and examines how, during the last 210 million years, mammals have evolved, become more diverse and adapted to their environments.

Other creatures on view are tree kangaroos, lions, water buffalo, tapirs, bears, zebras, gray seals, dolphins, deer, bush dogs, black-footed ferrets, wild sheep, bats and apes.

Coral reefs. Many of the world's coral reefs were substantially degraded by overfishing and pollution even before our great grandparents were born, concludes a recent long-term study of the world's coral reefs led by John Pandolfi of the Smithsonian's National Museum of Natural History.

Using historical records, the researchers rated groups of reef organisms from 14 reef ecosystems on a scale from pristine to extinct for each of seven different periods of human culture, ranging from prehuman and hunter-gatherer to late-modern and present.

Once humans began hunting the reefs, the study shows, large carnivores and reef grazers were the first to disappear. No reef

system in the world has escaped human disturbances.

'Aliens' egg. The large green egg used in the 1986 Twentieth Century Fox science fiction film "Aliens" was donated in December to the Smithsonian's National Museum of American History. Constructed of plaster of Paris, the egg is 3 feet tall and 2 feet in diameter and sports a crack that reveals an eerily glowing interior. It was added to the museum's popular culture holdings, along with a script and original advertising poster from the film. Actress Sigourney Weaver presented the



Sigourney Weaver and the egg from "Aliens" (Photo by Jeff Tinsley)

New telescope seeks radio wave images of the ancient universe

To solve the frustration of poor radio reception in their vehicles, many long-distance highway drivers are turning to satellite radio to get a clear signal, no matter where they are or what the weather.

In Hilo, Hawaii, staff of the Smithsonian Astrophysical Observatory have improved reception for their new radio telescope by building it 14,000 feet above sea level on Mauna Kea volcano.

In this desolate location, astronomers are tuning in signals well above the AM-FM bandwidth that were emitted by astrophysical events millions of light-years ago from across the universe. Translated into images, these signals can paint vivid pictures of the earliest stages of the uni-



Eight 20-foot-diameter antenna dishes atop Hawaii's Mauna Kea volcano scan the heavens for ancient radio waves.

verse—at a time when the stars and planets first formed.

The Submillimeter Array, as the telescope is called, consists of eight 20-foot-diameter antenna dishes that work together as one telescope. Dedicated in November, it is the world's first telescope array to view the universe at submillimeter wavelengths.

The new instrument “will allow us to peek into hidden regions of galaxies spanning the entire history of the universe and to image physical processes that have been impossible to view until now,” says Antony Schinckel, director of operations for the telescope.

Using the Submillimeter Array, astronomers plan to peer into star-forming regions to learn how gas clouds collapse to form new stars and how those stars grow and mature. They also plan to examine disks of matter surrounding newborn stars to gain an understanding of the planet-building process and to examine the first generation of galaxies formed after the Big Bang.

Cookbook offers fish-lovers a healthy range of delectable seafood choices

A widely publicized study by the Environmental Working Group linking unsafe levels of PCBs, dioxin and other cancer-causing toxins to farm-raised salmon has some fish-lovers searching for a substitute for salmon—long a reliable favorite of health-conscious consumers.

One excellent resource for seafood fans in a quandary over what to serve for dinner is a new cookbook, *One Fish, Two Fish, Crawfish, Bluefish: The Smithsonian Sustainable Seafood Cookbook*, by Carole Baldwin, an ichthyologist at the Smithsonian's National Museum of Natural History, and Julie Mounts, a research assistant at the museum.

Written with conservation in mind, the author's intent is to get people to diversify their seafood consumption and stop relying on the same species—“mainly imported farmed Atlantic salmon and shrimp,” the authors write. “Neither is a good choice from an environmental per-

spective, and the burden can be spread to a greater diversity of species fished or farmed in an ecologically sound manner.”

Baldwin and Mounts present a delectable range of alternative seafood choices, from oysters, mussels and clams to octopus, squid and prawns—and more fin-fish species than most cooks know exist.

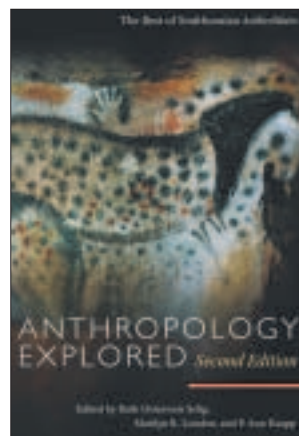
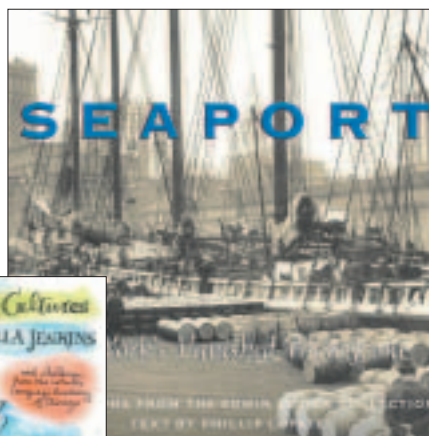
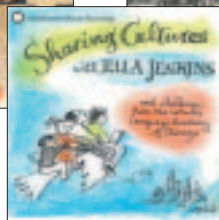
Recipes in *One Fish, Two Fish, Crawfish, Bluefish*—supplied by 104 professional and celebrity chefs, including Jacques Pépin, Julia Child and Emeril Lagasse—are divided into sections, which provide information about the natural history, commercial importance and conservation status of each species to be cooked. The book also includes a guide to seafood species, a section titled “Issues Regarding U.S. Seafood” and a list of retail sources for different types of seafood.

“Whether eating out or cooking at home,” Baldwin and Mounts urge, “broaden your seafood selections. It's

good for you and good for the fish.” *One Fish, Two Fish, Crawfish, Bluefish* is published by Smithsonian Books.



**An opah, or moonfish
(Illustration by
Charlotte Knox)**



Math and the Mona Lisa: The Art and Science of Leonardo da Vinci, by Bü-lent Atalay (Smithsonian Books, 2004, \$24.95). A masterful examination of science and art—painting, architecture, sculpture, music, mathematics, physics, biology, astronomy and engineering—and the unity of the two cultures.

Anthropology Explored, Second Edition: The Best of Smithsonian AnthroNotes, edited by Ruth Osterweis Selig, Marilyn R. London and P. Ann Kaupp (Smithsonian Books, 2004, \$21.95). The 36 lively articles accompanied by cartoons in this book explore recent discoveries in human origins, archaeology and cultural diversity.

Seaport: New York's Vanished Waterfront, Photographs From the Edwin Levick Collection, text by Phillip Lopate (Smithsonian Books, 2004, \$34.95). This book brings to life stunning photographs of the wharves, waterways and markets of Manhattan during the first half of the 20th century.

Heroes, Lovers and Others: The Story of Latinos in Hollywood, by Clara Rodriguez (Smithsonian Books, 2004, \$26.95). The fascinating history of Latinos in film is told here through stories of Hollywood's most famous and enduring

stars, including Rita Hayworth, Desi Arnaz, Anthony Quinn, Raquel Welsh and Antonio Banderas.

Gifts and Nations: The Obligation to Give, Receive and Repay, by Wilton S. Dillon (Transaction Publishers, 2003, \$24.95). An examination of the delicate balance of gift exchange and reciprocity between nations, with a focus on the United States and France under the Marshall Plan. To order copies of this book, write to Transaction Publishers, Department WWW, 390 Campus Drive, Somerset, N.J. 08873, or call (732) 445-1245.

Revision of the Western Atlantic Clingfishes of the Genus *Tomicodon* (*Gobiesocidae*), with Descriptions of Five New Species, by Jeffrey T. Williams and James C. Tyler (Smithsonian Contributions to Zoology, No. 621). This taxonomic update includes discovery of five new species. Smithsonian Contributions publications can be requested from Smithsonian Books, Series Division, Victor Building, Suite 4300, MRC 953, P.O. Box 37012, Washington, D.C. 20013-7012.

No Greater Sacrifice, No Greater Love: A Son's Journey to Normandy, by Walter Ford Carter, with Terry Golway (Smithsonian Books, 2004, \$24.95). A powerful account of a World War II hero

who died at Normandy and his son's discovery years later of the combat journal kept by his father.

The Story of Science, Book One: Aristotle Leads the Way, by Joy Hakim (Smithsonian Books, 2004, \$21.95). This is a science book unlike any other—filled with drama, suspense, heartbreaking setbacks and great leaps forward. The first of a lively three-book series.

Sharing Cultures With Ella Jenkins and Children From the LaSalle Language Academy of Chicago (Smithsonian Folkways Recordings, \$12 CD). Twenty-eight participatory songs for children that are sung around the globe.

Books published by Smithsonian Books can be ordered from Smithsonian Books, c/o W.W. Norton & Co. Inc., National Book Co. Inc., 800 Keystone Industrial Park, Scranton, Pa. 18512. To order by phone, call 1 (800) 233-4830. There is a \$4.50 postage and handling fee for the first book ordered and \$1 for each additional book.

Recordings can be ordered from Smithsonian Folkways Mail Order, Smithsonian Folkways Recordings Dept. 0607, Washington, D.C. 20073-0607. To order by phone, call 1 (800) 410-9815 or (202) 275-1143. There is a \$5.50 fee for shipping and handling.

At First Sight: Photography and the Smithsonian

By Merry A. Foresta (Smithsonian Books, 2003, \$60 cloth)

If one picture is worth a thousand words, what might one write about the 13 million photographs housed in the collections of the Smithsonian Institution? The answer is *At First Sight: Photography and the Smithsonian*, a book that surveys the Smithsonian's stunning yet immense collection of photographs.

Authored by Merry Foresta, a senior curator for photography at the Smithsonian, the book is a manageable sampling of a vast visual "inventory of culture"—one that spans more than 150 years and is held in some 700 special collections throughout the Institution.

One image, for example, depicts a large rag-tag group of Union soldiers camped near Petersburg, Va., in 1864. Relatively unknown, it is attributed to Mathew Brady and is from the Photographic History Collection of the Division of Information Technology and Society in the Smithsonian's National Museum of American History.

A second is a digital X-ray of a stingray taken in 2002 by Sandra Raredon for the Division of Fishes in the Smithsonian's National Museum of Natural History.

A third is a self-portrait by a young Ansel Adams taken in a commercial photo booth around 1930. That image was lo-

cated among the papers of curator and art critic Katherine Kuh in the Smithsonian's Archives of American Art.

Foresta spent two years tracking down collections and examining photograph after photograph. "The works presented here merely scratch the surface of the Smithsonian's photography collections," she says. "It may surprise everyone who loves both photography and the Smithso-

A 1910 color postcard showing a man from Dakar, Senegal, Africa (left), and a 1940 photograph of a worker at the Tennessee Coal, Iron and Railroad Co. are two of many images from the Smithsonian used in the book *At First Sight*.



nian to realize that never before has the Institution been mined systematically as a photographic resource." The images in *At First Sight*, she says, "were selected because they hold our attention and make us think not only about beauty but also about purpose."

Within 30 years of its 1839 advent in France and England, "photography had become an indispensable means by which

Americans experienced the present, encountered the future and made sense of the past," Foresta writes. These photographs "reveal how the Smithsonian, in the name of all Americans, has used photography as a means of describing and comprehending the world."

For example, cameras were taken on many Smithsonian expeditions around the globe by anthropologists, geographers, biologists and geologists. One 1892 photograph in *At First Sight* depicts former Smithsonian Secretary Charles Doolittle Walcott at a fossil quarry in the Canadian Rockies. Another is of President Theodore Roosevelt standing next to an African elephant he shot in 1909 for the collections of the Smithsonian's National Museum of Natural History.

In the laboratory, photography created visual records of biological specimens, geological structures and all manner of physical phenomena. Foresta's book brings to our attention such images as an 1844 photograph, taken through a microscope, of platelettes in the blood of a frog. An 1890 series shows the beautiful crystalline individuality of snowflakes.

Among the pages of *At First Sight* are a number of examples of humankind's favorite use of the camera: celebrity portraits. P.T. Barnum and his 25-inch sidekick Tom Thumb are here, as are Butch Cassidy and the Wild Bunch; pilot Amelia Earhart; singer Marian Anderson; and actress Lucille Ball.

By recording the act of seeing, and of what was seen, both photography and the Smithsonian have shaped our sense of ourselves as individuals, as a people and as a country. *At First Sight* is an invaluable guide that illustrates how photography has consistently put forth strange and beautiful views of the world, views that consistently outdistance our ability to describe with words.

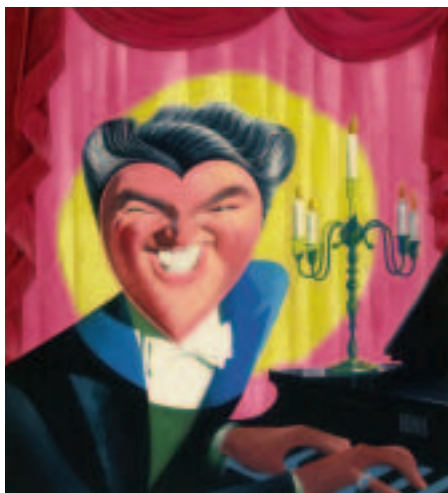
—Daniel Friend

Liberace plays on at the Portrait Gallery

When Al Hirschfeld's color drawing of Liberace graced the cover of Collier's magazine in September 1954, the pianist was at the zenith of the entertainment world. He was host of his own syndicated television show that was broadcast on more stations than "I Love Lucy" and seen by 35 million people around the world. Women dressed up just to watch him on TV, sent him marriage proposals, and were incurably smitten by the tender romance and sentimentality he embodied.

Liberace played to over-capacity crowds that year in Carnegie Hall, Madison Square Garden, the Hollywood Bowl and Chicago's Soldier Field. He was America's biggest solo attraction.

On television and stage, Liberace always made his fans feel as if they had spent time alone with him. "I always look into the camera," he once explained. "That's



"Liberace," by Al Hirschfeld, gouache on board, about 19 by 17 inches, 1954

how I get the feeling of intimacy that puts the show over."

Hirschfeld's vivid caricature "distilled the allure of Liberace—his wink, his charm, the pinkie ring and the shameless sentimentality that helped him connect so powerfully to his audience," explains Wendy Wick Reaves, curator of prints and drawings at the Smithsonian's National Portrait Gallery.

Soon after the drawing appeared on Collier's cover, Hirschfeld received a letter from Liberace's agents asking for the original. They balked, however, at Hirschfeld's asking price, suggesting that the portrait should be given to the entertainer.

"I promised faithfully to dispatch, without further ado, the original painting to Mr. Liberace posthaste without payment of any kind, to hang in his living room," Hirschfeld said. "On one condition—that they send Mr. Liberace to hang in mine."

Liberace never owned Hirschfeld's caricature, which was acquired at auction in September by the National Portrait Gallery. Not that the entertainer, whose name was synonymous with extravagance, could not have afforded it.

Early in his career, Liberace responded to critics of his music and lifestyle with the line, "I cried all the way to the bank." Later, he was fond of asking, "Remember that bank I used to cry all the way to?" Then, with a wicked grin, he'd say, "I bought it."
—John Barrat

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