Our Global Kitchen: Food, Nature, Culture
Opens Nov. 17
As the Museum continues to expand its reach globally through traveling exhibitions and digital outreach, it remains rooted in its magnificent campus in Manhattan—home to our scientists, educators, and galleries and a destination for millions who visit each year. This fall, we celebrate the pages of AMNH.org as we unveil the Museum’s Central Park West entrance following a comprehensive three-year restoration.

The Central Park West building is New York City’s monumental Theodore Roosevelt Rotunda, a long-time friend and champion of the Museum. Long before he was President, TR was a boy whose father helped found the Museum. And Roosevelt’s ongoing relationship with Museum scientists such as ornithologist Frank Chapman helped seed the American conservation movement.

This fall, visitors will be greeted by a majestically "split" in the mount of the iconic Barosaurus exhibit. Having reimagined the north side with the Rose Center in 2000 and elegantly restored the historic 79th Street façade now offers a refreshed and digital versions of this magazine.

Whether you’re looking to find a program for yourself or your family, explore the Museum’s world-class collections, go behind the scenes at an upcoming exhibition, or hear from curators about their field of expertise, you’ll find these and much more on the new amnh.org.

Members who checked the Museum’s website this summer have already noticed an elegant new design and found several features that improve navigation and offer a better browsing experience to help visitors discover a variety of rich content from the Museum. The first stop for Members: the new Join & Support section, with helpful resources that include frequently asked questions about benefits, listings of upcoming Members-only programs, and digital versions of this magazine.

The new website also can help guide you to a wealth of information about what you can do at the Museum today, tomorrow, or later this season. An enhanced Plan Your Visit section is a helpful starting point, with listings of current exhibitions and upcoming events, popular self-guided tours, and information on dining and shopping options. For Members interested in courses, workshops, and programs, a new Learn & Teach section provides a gateway to discovering the extensive educational resources at the Museum, which can be easily filtered by age range to find specific offerings for learners of all ages and educators.

There are also several exciting ways to explore the Museum from home—or from anywhere with access to the web—in the aptly named Explore section. Browse Science Topics for a slate of in-depth, subject-specific collections of videos, articles, and activities about current topics in science and the Museum’s areas of research. Check out News and Blogs for updates about Museum research, highlights of upcoming events, interviews with scientists, and podcasts of recent programs and lectures. Click on Behind the Scenes to take a peek at the Museum’s collections, exhibitions, and some of the extraordinary things that happen in the course of a day at the Museum. And tune into AMNHtv, a new video player that showcases recent Museum videos with channels featuring the latest Science Bulletins, a series all about dinosaurs, interviews with Museum curators, and more.

You can also learn about the important work being carried out by the 200 scientists across the Museum’s five scientific divisions and multiple research centers by visiting Our Research and even dive into the Museum’s collections through extensive online catalogs like the one maintained by the Division of Anthropology. A helpful Calendar highlights upcoming events, and the Exhibitions section offers a way to find out about special exhibitions currently at the Museum as well as learn more about favorite halls and iconic artifacts and specimens on permanent display, from the blue whale in the Milstein Hall of Ocean Life to the Tyrannosaurus rex and spatopodus in the fourth-floor Fossil Halls.

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Roosevelt’s Snowy Owl

In 1867, two years before this Museum was founded, eight-year-old wildlife enthusiast Theodore Roosevelt Jr. created his own Roosevelt Natural History Museum in his family’s home on East 20th Street in Manhattan. The collection included the skull of a seal acquired from a fishmonger, birds’ nests, insects, and mouse skeletons, and it is estimated that Roosevelt later donated to the Museum and the Smithsonian Institution.

An avid student of the natural world, young Roosevelt spent long hours studying animal anatomy, behavior, and habitats, compiling notebooks and sketches of what he saw, and reading scientific texts. His special interest was birds. By the time he was in his teens, Roosevelt was able to identify most species in the northeastern U.S. by their song, flight pattern, courtship behavior, and plumage.

During summers on Long Island and family trips in the Hudson Valley, the Adirondacks, western Europe, and Egypt, Roosevelt collected hundreds of specimens. He collected and mounted this Snowy Owl near Oyster Bay in 1876, the same year he entered Harvard. Intent on becoming a naturalist, he was already gaining a reputation as a skilled amateur ornithologist.

By graduation, however, Roosevelt turned to politics; at age 23, he became the youngest man to be elected to the New York State Assembly. But his passion for natural history remained even as his career advanced. He kept in touch with a network of naturalists, including Frank M. Chapman, the Museum’s long-time curator of ornithology, whose concern for endangered birds Roosevelt shared.

“I would like to see all harmless wild things, but especially birds, protected in every way,” he wrote to Chapman in 1899, as millions of birds were being slaughtered to provide feathers for the ladies’ hat trade. When Roosevelt became president, Chapman appealed to him to protect Florida’s Pelican Island, home to spoonbills, herons, and egrets, whose plumage were especially prized. At Chapman’s urging, Roosevelt declared Pelican Island the nation’s first federal bird reservation in 1905.

In 1911, Roosevelt gave the mounted Snowy Owl to the Museum. It was later exhibited in the Theodore Roosevelt Memorial Hall. It will return to public view when the renovated hall reopens on October 27.

Visit one of Theodore Roosevelt’s bird-watching sites on the November 3 Member trip to Oyster Bay. See p. 9 for details.

A Landmark Law

In 1896, a Museum-led team began excavating ruins of an Ancestral Pueblo settlement in New Mexico’s Chaco Canyon. That work would yield tens of thousands of artifacts, including the jet frog pictured here, and generate one of the most intensely researched collections of its kind in the world. It would also inspire an act of Congress under which the site and others like it would be protected as national monuments.

The Antiquities Act of 1906, signed by President Theodore Roosevelt, addressed concerns about the plunder of ancient sites by vandals and relic hunters. This simple act ultimately brought more than 100 significant archaeological sites within the broader scope of the more general push for the conservation of the country’s natural resources for which Roosevelt is justly famous.

A bowl by Nampeyo, ceremonial dance wands, and Katsina rain-spirit dolls are on display in the renovated Theodore Roosevelt Memorial Hall.

Mystery Source

The frog from the Chaco Canyon collection resembles species common to northwest New Mexico (Anaxyrus woodhousei, Scaphiopus intermontanus, and Scaphiopus bombifrons), but these animals lack the artifact’s color pattern, says Curator Darel Frost, a herpetologist who maintains an online taxonomic catalog of the world’s living amphibians.

A Wide Mandate

With its broad language, the law was also a perfect tool for preserving the country’s natural wonders, Roosevelt’s passion. In fact, his first use of the law was to declare Devils Tower, Wyoming, a national monument. This volcanic monolith is pictured in the mule deer dorsum in the Museum’s Hall of North American Mammals.

Polymath President

While Roosevelt is best known as a student of wildlife, especially birds, his scientific curiosity extended to a range of fields. For example, historian Paul Rutledge observed that “Not since Thomas Jefferson had a President of the United States demonstrated an interest in fossils.” Roosevelt embraced archaeology as well. “Theodore Roosevelt understood that the broader sweep of natural history included human beings,” says Dr. Thomas.

Living Cultures

Roosevelt also argued for nurturing living traditions as “an important constituent element in our national cultural development.” In 1913, he traveled to Navajo and Hopi reservations in Arizona, where he saw a Snake Dance and visited the celebrated Hopi potter Nampeyo. A bowl by Nampeyo, ceremonial dance wands, and Katsina rain-spirit dolls are on display in the renovated Theodore Roosevelt Memorial Hall.

The Antiquities Act also outlined the terms under which permits would be granted for working within archaeological sites and directed that all materials gathered be permanently preserved in public museums. This was pivotal in a still-emerging field.

Prior to the passage of the law, standards for fieldwork and the disposition of archaeological finds were a hodge-podge and too often caught between the competing interests of purely scientific investigation and the pilfering of antiquities for profit. “The Antiquities Act professionalized archaeology,” says David Hurst Thomas, archaeologist and curator in the Division of Anthropology who is also curator of the newly renovated Theodore Roosevelt Memorial Hall. “It required that only professional and public institutions go in and that they be vetted."

This frog’s story is as telling. The roughly 1,000-year-old figureine, a symbol of water for Ancestral Pueblo people and their living descendants was excavated in 1897 in Pueblo Bonito, one of the largest and most artifact-rich settlements at Chaco Canyon. The frog disappeared soon after and months later turned up at a trading post some 50 miles to the north. A local coordinator for the Museum bought it for $50 and quietly returned it to the collection.

 Ceramics and turquoise from Chaco Canyon will be on display in the Theodore Roosevelt Memorial Hall when it reopens October 27.

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A few years ago, psychologist Charles Spence decided to test why potato chips taste so good.

In his experiment, participants were given a hearty sampling of 180 chips and asked to rate their staleness or crunchiness. They also chewed into a microphone while wearing headphones. Behind the scenes, researchers fed the sounds from the microphones, in real time, back to the headphones while varying the volume and frequency of the crunching. The correlation was strong: subjects who heard louder, higher-frequency sounds of chewing found the snacks crisper and fresher.

“Sound is the forgotten flavor sense,” Spence says. “No one thinks of sound as affecting taste, yet it shapes it in so many ways.”

Spence, who is based at Oxford University, is one of the researchers at the forefront of a relatively new field of study—multisensory flavor perception—that measures how all the senses shape our experience of flavor. The influence of culture and upbringing, not to mention genetics and age, on whether someone enjoys a specific food is widely acknowledged. For breakfast, an American might opt for a bowl of cornflakes or gulp down a bold cup of coffee—choices that would seem odd to a Russian raised on breakfasts of buckwheat in hot milk, or, in the case of coffee, too bitter to ultra-sensitive “hypertasters” and children. What is less well known and only beginning to be understood is that humans of all backgrounds experience food with far more than their tongues. It turns out that the sounds of what we are eating—along with the weight of the utensils we’re using, the aroma of each part of the dish, the color of our meal, even the brightness of a room—don’t merely contribute to the experience of eating: they fundamentally form it.

Before diving into this new science of flavor, it’s important to note that “flavor” and “taste” are not interchangeable terms. Taste is one of the five senses. Flavor, on the other hand, is the combined experience of taste and the other four senses—the brain’s effort to integrate a rich set of pathways into one unified experience of what we’re consuming.

“The flavor is not in the food,” says Gordon Shepherd, a neurogastronomist at Yale University. “Flavor is created by our brains from the molecules that are in the food. It’s very much like how we create color, not from color that’s in the things we’re seeing but rather from the wavelengths that are reflected by what we see. Our sense of flavor is so deeply embedded because our brains create this sense.”

For decades, the study of flavor and taste concentrated on the tongue. The textbook “tongue map,” which divided the organ into regions perceiving sweet, sour, bitter, and salty tastes, has been largely debunked by recent science. This erroneous diagram actually resulted from a mistranslation of German data into English. “Even though the basic foundation was incorrect, the allure of having a tongue map was so appetizing and seductive that it captured the imagination of the public,” says Charles Zuker, a molecular geneticist at Columbia University.

What was wrong with the picture? For one, the original tongue map left out a crucial fifth taste—“umami,” a Japanese word for savory (think meat or mushrooms). And while certain regions of the tongue may be slightly more sensitive to bitter foods than others, it turns out that no part of the tongue holds a monopoly on any one taste. It’s the individual taste receptors, which are distributed across the tongue, that are wired to send a particular taste to the brain, as Dr. Zuker’s research revealed. These receptors go far beyond the tongue, too, and have been found all the way down to the gut and even in the lungs.

In fact, a complete anatomical map of flavor should show
not only the tongue, but also the eyes, ears, nose, throat, and hands. The throat and nose are especially important in this process. To smell an orange or enjoy a symphony, we draw in odors or sounds. But flavor perception requires more than mere intake. “This is the least understood thing about flavor,” says Shepherd. “And it’s only when we’re breathing out that we have flavor perception.” As we chew and swallow, we exhale small gusts of air. The smells from our food are pushed up and outward from the food and through back-door passages into our nose, where sensory receptors relay that information to the brain. This “retrosensory olfaction” explains why smell dominates our experience of food, as anyone who has suffered through the flavor-dulling effects of a stuffy nose knows.

Less familiar is how touch, sight, and even sound make up the flavor experience. New research shows that as far as food goes, we’re all synesthetes, experiencing multiple sensations that shape our perceptions. As Spence’s potato-chip experiment demonstrated, sound matters more than we suspect. And it’s not just the sound of food being chewed and swallowed: crinkler-sounding snack packaging, for instance, can also make chips taste crunchier. “It’s like Pavlov’s dog,” says Spence, referring to the famous conditioning experiments in which dogs learned to salivate at the ring of a bell that preceded food. “We anticipate the crunch of the crisp while hearing the rattling of the package in the way a dog salivates at the arbitrary sound of a dinner bell.”

Even non-food sounds have been shown to influence our consumption: for instance, one study demonstrated that playing French accordion music in a grocery store prompted shoppers to choose French over German beer. (The reverse happened when German bierkeller music blared over the store’s speakers.)

It’s not surprising, then, that people selling food are very interested in this research’s application. Restauranters are paying more attention to how sound environments affect the dining experience, which goes far beyond creating a mood with background music. Recent studies have found strong associations between certain flavors and specific sounds or instruments. For example, people tend to associate sweet tastes with high-pitched piano music and bitter tastes such as coffee with low-pitched and brassier sounds. “Once you know the synesthetic mappings,” says Spence, “then you can construct pieces of music that subtly feed different expectations about dishes without any mention of flavors at all. You can change the taste by changing the music.” Spence, along with his colleagues at The Fat Duck restaurant’s research kitchen in England, recently published a study showing that ambiguous foods—those with traces of both bitter and sweet, for instance—can be manipulated with music to draw out one flavor over another. This element of taste is being taken to sci-fi extremes. One of Spence’s recent ventures is to design sonic plates that could enrich diners’ sound and flavor experiences. “We’re even figuring them out with headphones,” he says. “It’s a workaround for Swiss chef Denis Martin’s frozen gin and tonic. To make this concoction, Martin pours gin and tonic into a balloon, then rolls the balloon in liquid nitrogen, which freezes the cocktail into a hard sphere. After removing the rubber shell, he leaves with a hollow crystalline orb of gin and tonic that can be illuminated and cracked open to eat. But one thing’s missing: the sound of the carbonated tonic water, so central to enjoying this classic combination. A plate that makes fizzing sounds when raised could be the missing ingredient.”

The visual presentation of food may be less exotic than musical plates, but its importance is just as powerful. Most consumers realize that food advertisers and magazines depend on expert stylists and photographers to make their fare look appealing. And with good neurological basis: when we see a delicious meal, the sight trips nerves that activate our salivary glands. But beyond making us hungry, the visual appearance of food also modulates our perception of the food’s flavor. For example, studies have shown that adjusting the color and brightness of room lighting has an effect on people’s flavor perception of wine and coffee. Wine tastes sweeter under red light and spicier and fruitier in blue or green. Music, too, is increased under bright lighting—at least by those who take their coffee strong.

Much of vision’s effect on flavor perception has to do with expectation. The coloring of a fruit drink, for instance, may significantly alter its perceived sweetness or sourness. In some studies, participants ranked fruit drinks colored red to be sweeter by as much as 11 percent—a perception that may be linked to the fact that many of our most familiar fruits are red and round. Color is also a crucial cue when it comes to flavor identification: in experiments, subjects have been easily fooled into thinking green-colored orange juice tasted like lime. “We often taste the flavor that we see,” says Spence. That’s part of what makes mystery flavors work. In the Skittles goddess, for instance, each candy is “incorrectly” colored and too hard to pin down. Not only do we lack a word to associate with the taste, but the taste itself is often obscured in the “wrong” color.

“Even texture and mouthfeel are important,” says Spence. “The sound of potato chips crunching— are carrots next?—has been shown to enhance their perceived freshness. And as Charles Spence, a psychologist and expert on multisensory flavor perception at Oxford University, says, “You can make something taste tarter and creamier just by changing the smell.” Each sense, it seems, offers another opportunity for engineering healthier foods that don’t taste as just good.

Recent studies have shown that red food coloring alone can make fruit drinks taste sweeter than the same yogurt in lighter bowls. As with sound, smells, and sights, textures create moods and expectations, but all these senses do so much more. Each adds another variable to the sensory highway of food perception, allowing the brain to combine each input into a single, unified flavor experience. That’s why flavor is ultimately a product of the mind, not the mouth.

And eating is a sensory act unlike any other. “Sight involves photons, hearing involves sound waves, but flavor is coming into our bodies,” says Shepherd. “When we eat, we willfully take food into our bodies. And that means from the very start, we’re extremely sensitive to what it is and whether it’s something we want.”

Even if that something’s a fizzing ball of gin and tonic.

Our Global Kitchen, which opens on Saturday, November 17, is free for Members.
In densely populated cities, land for growing food is scarce. In Hangzhou, China, high-rise residents cultivate fruits and vegetables on balconies. In Dakar, Senegal, many garden on rooftops. In New York City, commercial farm Brooklyn Grange grows on a 40,000-square-foot roof in Queens and a 65,000-square-foot roof in Brooklyn’s Navy Yards using millions of pounds of special lightweight soil. Among the benefits of growing on a roof: lots of sunlight, fewer pests.

**MARKET**

Farms such as Brooklyn Grange are part of a regional system that provides fresh seasonal food to New York residents. “There are educated consumers in New York City who love local food and know about seasonal growing,” says farm COO Gwen Schantz. “If they wait until July or August, their tomato is going to be superior.” Limiting its delivery radius to about 5 miles helps the farm’s bottom line and reduces greenhouse gas emissions.
Brooklyn Grange works closely with restaurants like Roberta’s pizzeria, whose owners helped found the farm. “We grow specific things that chefs request,” says Schantz. “They can also take larger quantities. If we have 500 square feet of lettuce that is about to start producing seeds, we have to cut it today. So we’ll call a restaurant.” To the right, chef Lauren Calhoun prepares a pizza with greens grown at Brooklyn Grange.

Chiefs root for local ingredients, and increasingly, diners do too. In opening their Navy Yards farm earlier this year, Brooklyn Grange has more than doubled its acreage and its commitment to rooftop growing. With half of the world’s population now living in cities, urban agriculture is taking off. Schantz thinks that New York is at a turning point. “Urban farming is becoming less of a hobby and more of a livelihood,” she says.
As the only U.S. President to be born in New York City, Theodore Roosevelt may have seemed an unlikely candidate to become one of the nation’s greatest defenders of wild lands. But by the end of his last term, Roosevelt had added five national parks; had enabled the commander-in-chief to protect areas of natural beauty, scientific; or historic value as national monuments; and had stood on the edge of Yellowstone’s geysers and slept beneath the giant sequoias of Yosemite.

Ever since his childhood, Roosevelt had a sharp eye for natural history and a love for the outdoors. When he took office in 1901, he was poised to use his lifelong passion to direct public policy at a peculiar environmental moment. At the turn of the century, America was in the midst of a nature renaissance. The public appreciation for wildlife was escalating through the growing nature study movement, widespread reading of authors such as naturalist John Burroughs, and declining transportation costs—not to mention inventions such as the bicycle and binoculars—that facilitated amateur nature exploration. On the other hand, industrial America was encroaching on wild landscapes, species such as the Passenger Pigeon were disappearing en masse, and, in 1893, Frederick Jackson Turner had declared the frontier “closed.” At this juncture, a strong leader to direct the nation’s attitudes toward wildlife was in high demand.
FRANK CHAPMAN

Ornithologist Frank Chapman was a long-time curator at the Museum and helped shape Roosevelt’s views on protecting birds. Roosevelt once told Chapman in a letter now housed in the Museum Library that “the destruction of the wild pigeon and the Carolina parakeet [sic] has meant a loss as severe as if the Catskills or the Palisades were taken away.” Inspired by Chapman’s photographs of pelicans and moved by his plea to save Florida’s Pelican Island, Roosevelt made it America’s first federal bird reservation in 1903.

On the third floor of the Theodore Roosevelt Memorial Hall, a moment to contemplate Roosevelt’s legacy and the urgency of conservation efforts today.

While Roosevelt’s executive power allowed him to translate his passion for nature into policy, he didn’t act alone. This was also a time when the leaders of politics and industry took famous excursions and kept personal correspondence with environmentalists and nature writers. Roosevelt “camped and tramped” through Yellowstone with naturalist John Burroughs, who was also a close friend of Henry Ford and Thomas Edison; kept a steady correspondence with Museum ornithologist Frank Chapman about the state of American birds; and spent several days exploring Yosemite with John Muir, founder of the Sierra Club. “I fairly fell in love with him,” Muir recounted after his famous 1905 camping trip with the President, who would go on to add all of Yosemite to Yosemite National Park.

Roosevelt demonstrated the art of preserving nature in its pristine state, but also that of conservation: sustainably using nature in a way that would keep it from running dry for future Americans. In Gifford Pinchot, the first Chief of the United States Forest Service, Roosevelt found a trusted guide on forestry policy and an advisor for developing wild lands without destroying them. As Roosevelt said of Pinchot in his autobiography, “[A]mong the many, many public officials who under my administration rendered literally invaluable service to the people of the United States, he, on the whole, stood first.” All of these alliances left a lasting impact on Roosevelt’s views of nature and how it might be protected. What was more, Roosevelt was the friend they needed in office to realize their dreams for saving the Yosemite Valley, the egrets, the Catskills, and the forests at a time when the future of such things was uncertain.

Part of Roosevelt’s love for nature and hope to preserve it also included hunting. While Roosevelt was not merely a man of his times, and often received sharp criticism from contemporaries for his hunting excursions, the President’s outdoor pursuits stemmed from his vast knowledge of the natural history of wildlife. “I have never been disturbed by the President’s hunting trips,” wrote John Burroughs. “It is to such men as he that the big game legitimately belongs—men who regard it from the point of view of the naturalist as well as from that of the sportsman, who are interested in its preservation, and who share with the general public the enjoyment they experience in the chase.” The Boone and Crockett Club, founded by Roosevelt, established a hunters’ code of ethics and was one of the first conservation groups to effectively protect wild game. Looking to the future, Roosevelt envisioned a new model for America’s pursuit of wildlife. “More and more, as it becomes necessary to preserve the game, let us hope that the camera will largely supplant the rifle,” Roosevelt wrote in the introduction to A.G. Wallihan’s 1901 Camera Shots at Big Game.

Roosevelt’s contagious love for wildlife and wild places may be his most enduring legacy, living on through policy and legislation. While President, he signed into law the Organic Act of 1906, which established the national parks system, and in 1907, Roosevelt publicly entered the still-evasive debate by officially endorsing Burroughs. The John Burroughs Association has been headquartered at the Museum since Burroughs’s death in 1921.

The Theodore Roosevelt Memorial Reopens October 27

On October 27, Theodore Roosevelt’s 154th birthday, the Museum will officially reopen the Theodore Roosevelt Memorial and the Hall of North American Mammals. This reopening launches a year of celebration of Theodore Roosevelt’s dedication to nature and his instrumental role in fostering the American conservation movement, both of which were inspired by his lifelong association with the Museum.

Designed by John Russell Pope and dedicated in 1936, the two-story Memorial—which includes the Central Park West entrance, the Theodore Roosevelt Rotunda, and the Theodore Roosevelt Memorial Hall on the first floor—serves as New York State’s official memorial to its 33rd Governor and the nation’s 26th President, a lasting tribute to Roosevelt’s powerful conservation legacy. The Theodore Roosevelt Memorial Hall on the first floor will tell the story of Roosevelt’s life and passion for protecting wildlife and wilderness through never-before-seen objects from the Museum’s collections and interactive exhibits. Sections of the exhibition profile Roosevelt the Young Naturalist, displaying his passion for the natural world and for science during his childhood and adolescence; Roosevelt as a Firebrand Observer of the near-extinction of bison during his adventures in the American West; Roosevelt as the Conservation President, the first to make environmental conservation a priority of his administration; and Roosevelt the Lifelong Explorer, whose passion for natural history and adventure continued long after he left office.

At the center of the hall, a life-size sculpture of Roosevelt seated on one of four benches around a large medallion invites visitors to take a moment to contemplate Roosevelt’s legacy and the urgency of conservation efforts today.

Restoration of the Theodore Roosevelt Memorial Rotunda, Memorial Hall, and exterior facade were made possible by

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New York City Department of Design and Construction
New York City Public Design Commission

Theodore Roosevelt Memorial Reopens October 27

John Muir

A preacher of the wonders of wilderness, preservationist John Muir led Theodore Roosevelt on a famous camping tour of Yosemite in 1903. Roosevelt recited a night sleeping under the sequoias: “It was like lying in a great solemn cathedral, far vaster and more beautiful than any built by the hand of man.” Soon after his return, Roosevelt persuaded Congress to designate Yosemite Valley and Mariposa Grove as Yosemite National Park, a measure that would succeed in 1906.

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THEODORE ROOSEVELT TOUR OF THE MUSEUM

EXPLORE CONNECTIONS TO THE CONSERVATION PRESIDENT

From boyhood summers in the Adirondacks to years spent in the American West, Roosevelt treasured America’s forests. “A grove of sequoias should be kept just as we keep a great and beautiful cathedral,” he once wrote.

HALL OF NORTH AMERICAN FORESTS
GIANT SEQUOIA

The Theodore Roosevelt Memorial Hall reopens October 27. At its center is a bronze floor medallion quoting Roosevelt from a 1912 speech: “There can be no greater issue than that of conservation in this country.”

THEODORE ROOSEVELT MEMORIAL HALL
MEDALLION

“He probably knew tenfold more natural history than all the presidents who had preceded him,” John Burroughs wrote of his friend and fellow nature writer Theodore Roosevelt. Since 1926, the John Burroughs Association, headquartered at the Museum, has awarded a medal for outstanding nature writing.

HALL OF SOUTH AMERICAN PEOPLES
PARESSI BAMBOO FLUTE

In a letter to Museum ornithologist Frank Chapman in 1899, Theodore Roosevelt wrote, “When I hear of the destruction of species I feel just as if all the works of some great writer had perished.”

HALL OF BIODIVERSITY
ENDANGERED SPECIES CASE

Roosevelt, an avid bird watcher, may have been among the last to see a flock of Passenger Pigeons, in 1907 in Virginia. Once one of the most abundant birds in North America, the species was driven to extinction in the early 1900s.

HALL OF NEW YORK CITY BIRDS
PASSERIN PIGEON

Explorer Carl Akeley, who conceived of this hall, met Roosevelt in Africa in 1909 and wrote that the ex-President “had the observing eye and keen mind of the ideal naturalist.”

AKELEY HALL OF AFRICAN MAMMALS
AFRICAN ELEPHANT GROUP

Museum ornithologist Frank Chapman used habitat dioramas to call attention to the plight of threatened birds. He also urged Roosevelt to establish the first federal bird reserve, on Florida’s Pelican Island, in 1903.

SANFORD HALL OF NORTH-AMERICAN BIRDS
GREAT EGRET

Roosevelt’s quotations, inscribed on the walls, highlight his skill as a writer and celebrate his passion for nature.

HALL OF SOUTH AMERICAN MAMMALS
ALASKA BROWN BEAR

This hall exemplifies one of Theodore Roosevelt’s greatest legacies: championing careful management of America’s natural resources. “We are not building this country of ours for a day,” he said. “It is to last through the ages.”

THEODORE ROOSEVELT MEMORIAL HALL
MEDALLION

From boyhood summers in the Adirondacks to years spent in the American West, Roosevelt treasured America’s forests. “A grove of sequoias should be kept just as we keep a great and beautiful cathedral,” he once wrote.

HALL OF NORTH AMERICAN MAMMALS
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HALL OF SOUTH AMERICAN MAMMALS
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This hall includes artifacts from Roosevelt’s arduous 1914 expedition down an uncharted tributary of the Amazon called the River of the Doubt. Today, the tributary is known as Rio Roosevelt.

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NEW SCIENCE FOR A CLASSIC HALL

DECADAS OF SCIENTIFIC DISCOVERY OFFER INSIGHTS INTO ICONIC SCENES
After more than a year of restoration work, the classic habitat dioramas in the Hall of North American Mammals, which reopens this fall, seem more vibrant and realistic than ever.

Based on meticulous field observations, they re-create real places and encounters with the natural world, from the Grand Canyon company of cougars to the icy peaks of Denali. But while the diorama scenes haven't changed, decades of scientific research and discovery are offering new insights into the stories they tell.

In some instances, additional time in the field has given scientists fresh ways of understanding the hall's iconic scenes, whose latest science stories are illuminated by new wall labels that accompany the dioramas. These include the drama unfolding in one of the largest dioramas. At first glance, it appears as if two male moose battle in an Alaskan peat bog during the fall rut while a female stands off to the side, waiting for a winner, her would-be mate.

New field research has revealed this scene isn't so simple: "For many years, we thought females were quite passive in these encounters," says Ross D.E. MacPhee, a curator in the Department of Mammalogy who served as the supervising scientist on the restoration. "But females may also exert a choice."

The discovery appears in a study by a team of biologists who traveled by ski and foot to observe these giant mammals for over 500 hours in the Alaskan wilderness. They found that as smaller male moose tried to woo, females objected with a "protest moan" that could ignite male-male battles and tip the odds in the suitors and that others may apply. "This type of indirect female choice, also found among elephant seals and pronghorns, is rarely documented in large mammals, where the focus traditionally has been on clashing males."

Scientific frameworks that have emerged since the hall first opened in 1942 also offer new lenses through which to consider the dioramas' carefully recorded scenes. One major shift has been the rise of ecology: the view of habitats as interconnected, self-regulating systems. Naturalists including Charles Darwin had recognized closely woven relationships in nature for centuries, regulating systems. Naturalists including Charles Darwin had recognized closely woven relationships in nature for centuries, complicating the understanding of what species really is. "The idea is a human-made concept that doesn't necessarily fit the variation in nature," says Kays. "The lines are not always black and white."

Given how new observations and frameworks have enriched—and at times overturned—the understanding of these scenes since 1942, imagine what stories the dioramas will be telling 70 years from now.

The fully restored Hall of North American Mammals officially reopens on October 27.

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**A YEAR OF BEAUTY**

Bring this classic hall home in a special-edition 2013 calendar from the Museum Shop. Members receive a 20 percent discount during Double Discount Days on 11/16–11/18 and 12/14–12/16.
Footnotes to a Diorama

**Famous Landscapes**
The background painting, by James Perry Wilson, depicts the famous granite El Capitan, which was formed by glaciers that carved Yosemite Valley and is a popular destination for rock climbers.

**Hidden Gem**
A delicate hummingbird is anchored to this Western azalea plant by a wire connected to its beak.

**Historic Grounds**
In 1903, John Muir and Theodore Roosevelt went on a camping trip that included a visit to Bridalveil Fall, which is depicted in this diorama’s background painting. Roosevelt later successfully persuaded Congress to add Yosemite Valley, which includes Bridalveil Fall, to Yosemite National Park.

**Perfect Match**
The colors of the background paintings served as a reference for conservators for several of the dioramas. The flowers of this azalea plant, for example, were cleaned and repainted to match those in the background.

**Rare Reprint**
A damaged echo blue butterfly specimen was replaced with a scientifically accurate paper model, which was dusted with mica flakes for iridescence.

**Call of the Wild**
These coyotes, which were recolored during the restoration, howl and dig for burrowing animals.

**Hanging by a Hair**
This California tortoiseshell butterfly is suspended by a thin human hair to give the appearance of flight. Fine human hair is less noticeable than a wire support.

**Tying it Together**
One mark of a masterful diorama is a seamless tie-in, the spot where the vertical background painting meets the horizontal foreground. In this diorama, it’s in the gravel stream bank.

**Famous Landscapes**
June Morning, Yosemite National Park, California

**New interpretive panels in the Hall of North American Mammals feature illustrations by artist Patricia Wynne. Here, we add a few fun facts.**
The first in a four-part series, this excerpt from the forthcoming Natural Histories: Extraordinary Rare Book Selections from the American Museum of Natural History Library (Sterling Signature, October 2012) highlights an essential ichthyological text from the 18th century.

By Melanie L. J. Stiassny

The scientific study of fishes came rather late in life to the German physician-surgeon Marcus Elieser Bloch, yet from the age of 47, when he began his ichthyological studies, Bloch established himself as one of the founding fathers of the modern discipline. Publication of his magnificent Allgemeine Naturgeschichte der Fische (General Natural History of Fishes), a strikingly illustrated and scholarly compendium of all fishes known at that time, received universal recognition and established Bloch’s place among the scientific elite of the European Enlightenment—a position of esteem he maintains to this day.

Bloch was born into very modest circumstances. His father was a respected but poorly paid Torah writer in the Jewish community of Ansbach, Germany. Bloch’s secular schooling was minimal, and by the age of 18 he could not read or write, neither in German nor Latin. Through much hard work under the tutelage of a Hamburg surgeon, he gained sufficient linguistic and medical knowledge to study anatomy in Berlin. As a Jew he was barred from obtaining a doctorate there, so he moved to Frankfurt to continue his medical studies. It was not until the age of 42 that he received a license to practice as a physician in Berlin. There, he maintained a busy and apparently lucrative medical practice and published a number of influential medical papers.

Bloch married three times, and the considerable dowry of his second wife probably helped support his studies of natural history. By 1765, when he was 55, he had extended his studies with the ambitious goal of compiling a monumental work, A monumental work, still studied today volume Oeconomische Naturgeschichte der Fische Deutschlands. Among the accompanying 108 large-scale, colored, copper plate engravings is a depiction of the gibel, a carp common in German waters but apparently unknown to any of his predecessors, and for which Bloch provided the first scientific description and the name Cyprinus gibelus. While our understanding of relationships as reflected in their generic assignment has changed since Bloch’s day, and the fish that he described as Cyprinus gibelus is currently placed, along with the common goldfish, in the genus Carassius, his species description remains valid.

Bloch extended his studies with the ambitious goal of describing all known fishes. His growing recognition as a scientific authority, his wealth, and a network of collectors and colleagues overseas provided him with many specimens. Some were dignitaries of high rank, including King Friedrich II of Prussia and notables such as Sir William Hamilton—English envoy to the court of Naples—but most were missionaries and surgeons working in the far-flung corners of European empires. The result, published between 1785 and 1795, was the Naturgeschichte der ausländischen Fische in nine volumes with 524 color plates. The combined Oeconomische Naturgeschichte der Fische Deutschlands and Naturgeschichte der ausländischen Fische—bound together in 12 volumes with 452 consecutively numbered color plates—have come to be known as Bloch’s Allgemeine Naturgeschichte der Fische. Fishes are notoriously difficult subjects to capture visually, and many of Bloch’s illustrations not only are accurate depictions but also beautifully capture the sense of the animal in life. His illustrations are like stepping inside a glorious curiosity cabinet with dozens of expert guides. This unique volume, edited by Tom Baione, the Harold Boeschenstein Director of Library Services at the Museum, showcases spectacular holdings from the Rare Book Collection, with 40 essays by Museum curators, scientists, librarians, and other specialists that describe the unique features and enduring values of these works. There’s more: each deluxe edition includes 40 prints, suitable for framing.

Members receive a 20 percent discount in the Museum Shop during Double Discount Days on 11/16–11/18 and 12/14–12/16.
Exhibitions

Admission is by timed entry only.

Our Global Kitchen: Food, Nature, Culture Opens Saturday, November 17
Free for Members
Celebrate culture and cooking, historic meals and markets, and the ingredients that we have discovered and shaped over the course of thousands of years.

Programs and Events

For more programs and to purchase tickets, visit amnh.org/calendar.

For updates and reminders, sign up for monthly Notes for Members by sending your membership number and request to subscribe to members@amnh.org. The Museum does not trade, rent, or sell this information.

Tickets

Tickets are available by phone at 212-769-5200, Monday–Friday, 9 am–5 pm, or by visiting amnh.org. Please have your Membership number ready.

Availability may be limited. Please purchase tickets or make reservations in advance.

Please be aware that ticket sales are final for all Member programs. All programs go ahead rain or shine. There are no refunds unless the program is cancelled by the Museum.

October

SciCafe: The Whole-Life Catalog Wednesday, October 3
7:30 pm
Free with cash bar
21+ with ID
Museum Provost of Science Michael Novacek discusses how we map the biosphere.

Field Trip to the Moon Thursday, October 6
6–4:30 pm
 Member tickets are $15.50 adults, $8 children
Take a virtual trip to the Moon in the Hayden Planetarium and learn about the universe end their lives as supernovae with Joanne Bibby and Graham Kanarek.

Adventures in the Global Kitchen: Modernist Cuisine Thursday, October 13
6:30 pm
Learn about science-informed techniques with a co-author of cookbook Modernist Cuisine.

A Night at the Museum Sleepovers Friday, October 4
Saturday, October 20
Saturday, December 15
$49 for Members
Break out your sleeping bags for an after-hours adventure.

Behind the Scenes in Mammalogy: Bats, Rats, and Cats Thursday, October 11
6:10–7:30 pm (family tour)
7–8 pm
$30 for Members
Enjoy an evening of astronomy and stories inspired by the night sky.

Spectacular Supernovae Monday, October 15
7:30 pm
Free (Reservations required, call 212-769-5200)
Learn about some of the most amazing stars in the universe, including supernovae with Joanne Bibby and Graham Kanarek.

Birding in Green-Wood Cemetery Saturday, October 20
10 am–Noon
$25
Join museum ornithologist Paul Sweet on a birding excursion to Brooklyn.

Geology and History of Woodlawn Cemetery Saturday, October 24
10 am–Noon
$25
Join geologist Sidney Horenstein on a tour of Woodlawn Cemetery in the Bronx to learn about its 140-year history and the area’s geology.

Family Astronomy: Creatures in the Sky Saturday, October 13
6 pm
$30 for Members
Enjoy an evening of stargazing and stories inspired by the night sky.

Geology and History of Woodlawn Cemetery Saturday, October 31
10 am–Noon
$25
Join geologist Sidney Horenstein on a tour of Woodlawn Cemetery in the Bronx to learn about its 140-year history and the area’s geology.

November

Geology and History of Woodlawn Cemetery Saturday, October 31
10 am–Noon
$25
Join geologist Sidney Horenstein on a tour of Woodlawn Cemetery in the Bronx to learn about its 140-year history and the area’s geology.

Spiders Alive! Closes Sunday, December 2
Member tickets are $15.50 adults, $8 children
This annual favorite returns with up to 500 live, free-flying tropical butterflies housed in a vivarium that approximates their natural habitat.

The Butterfly Conservatory: Creatures of Light Open Saturday, November 1
9 am–5 pm
$12.50 (includes transportation by private coach)
Join a tour of the Museum’s most popular displays.

Winged Tapestries: Spiders Alive! (family tour)
Saturday, November 6
7–8 pm
$15
Get an exclusive peek at fossils behind the scenes.

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$15
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Adventures in the Global Kitchen: Organic Wine Thursday, November 15
6:30–8 pm (family tour)
$35
Sip wine with vintner Barbara Shinn.

Double Discount Days Friday, November 16–Saturday, November 17
Friday, November 15–Sunday, December 16
Members receive 20 percent off regularly priced merchandise in Museum shops, including ammonshop.com.

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Credits

Winged Tapestries: Moths at Large, featuring the art of Jim des Rivières, is produced by the Canadian Museum of Nature, Ottawa, Canada. The presentation of Winged Tapestries at the American Museum of Natural History is made possible by the generosity of the Arthur Ross Foundation.

The exclusive corporate sponsor for Our Global Kitchen is E. P. Morgan.

Credits continue on page 30
Observe and Collect Saturday, December 8 5–9
Artist Stephen C. Quinn leads this family drawing course in the Hall of North American Mammals.

Theodore Roosevelt Tour of the Museum Sunday, December 9 3–4:30 pm Free for Members (Registration required; call 212-769-5606)
Join a guide for a tour of the Museum that explores connections to the Conservation President.

Black Holes and the Fate of the Universe Monday, December 17 7:30 pm $5 for Members Gunther Hasinger discusses black holes.

Origami Fest Sunday, December 16 Members only 10:30 am–2 pm $5 Fold, crease, and create an assortment of ornaments to ring in the holidays.

Kwanzaa Saturday, December 29 Free for Members Experience the rich traditions of Kwanzaa with family-friendly activities and live performances.

January
Walk on the Wild Side Wednesdays, January 2–March 27 8–9:30 pm Free for Adventurer-level Members and above (Registration required; call 212-769-5606)
Follow trainers on early-morning fitness walks through the Museum before it opens to the public. Walks are followed by breakfast in the Akeley Hall of African Mammals.

Program credits:
The Presenting Sponsor of the Museum’s cultural public programming is MetLife Foundation.
The Margaret Mead Film Festival is made possible by the New York State Council on the Arts with the support of Governor Andrew Cuomo and the New York State Legislature.
SciCafe is proudly sponsored by Judy and Josh Weston.
Human Health SciCafes are supported by the National Center for Research Resources and the Division of Program Coordination, Planning, and Strategic Initiatives of the National Institutes of Health through Grant Number R25 OD011093.

 Hayden Planetarium Programs are proudly supported by Con Edison.
The Museum greatly acknowledges The Mortimer D. Sackler Foundation, Inc. for its support to establish the Sackler Brain Bench, part of the Museum’s Sackler Educational Laboratory for Comparative Genomics and Human Origins, in the Spitzer Hall of Human Origins.

Enjoy family entertainment in the Fossil Halls and visit Creatures of Light before it closes.

Behind the Scenes in Anthropology: Food Thursday, December 6 6:30–7:30 pm (Family tour) 7 pm–8 pm 7:30–8:30 pm $5 See harvest costumes and more from the collection.

Save the Date!
Upcoming Events at the Museum
October
10/6 Mingle with free-flying tropical butterflies when The Butterfly Conservatory returns.
10/17 The annual Family Party features activities for children of all ages, including opportunities to interact with live animals and hear from Museum scientists. For ticket information, please call 212-319-7161.
10/27 The restored Theodore Roosevelt Memorial Hall and the Hall of North American Mammals reopen to the public.
10/31 Celebrate Halloween at the Museum as more than 30 halls open for trick-or-treating and live performances.

November
11/4 Members will have a chance to see the new special exhibition Our Global Kitchen at an exclusive preview.
11/7 The dazzling Museum Gala helps support the Museum’s scientific and educational work. For ticket information, call 212-769-5932.
11/6–11/8 Members receive 20 percent off Museum Shop purchases during Double Discount Days.
11/9 Our Global Kitchen opens to the public.
11/19 The delightfully decorated Origami Holiday Tree returns to ring in the festive season.
11/22 The Museum is closed on Thanksgiving.
11/29 The Margaret Mead Film Festival returns through December 2 with documentaries, discussions with filmmakers and film subjects, and more.

December
12/4–12/16 Members receive 20 percent off Museum Shop purchases during Double Discount Days.
12/23 The Museum is closed on Christmas Day.
12/29 A cultural festival commemorating the seven principles of Kwanzaa will include live performances, traditional crafts, and a bustling Kwanzaa MarketPlace.
General Information

HOURS
Museum: Open daily, 10 am–5:45 pm; closed on Thanksgiving and Christmas.

ENTRANCES
During Museum hours, Members may enter at Central Park West at 79th Street (second floor), the Rose Center/81st Street, and through the subway (lower level).

RESTAURANTS
Museum Food Court, Café on One, Starlight Café, and Café on 4 offer Members a 15% discount. Hours are subject to change.

MUSEUM SHOPS
The Museum Shop, DinoStore, Shop for Earth and Space, Cosmic Shop, Our Global Kitchen Shop, Creatures of Light Shop, and Online Shop (amnhshop.com) offer Members a 10% discount.

Phone numbers
Central Reservations 212-769-5200
Membership Office 212-769-5606
Museum Information 212-769-5100
Development 212-769-5151

TRANSPORTATION AND PARKING
Subway: B (weekdays) or C to 81st Street; 1 to 79th Street, walk east to Museum
Bus: M7, M10, M11, or M104 to 79th Street; M79 to Central Park West
Parking Garage: Open daily, 8 am–11 pm; enter from West 81st Street. Members can park for a flat fee of $10 if entering after 4 pm. To receive this rate, show your membership card or event ticket when exiting the garage.

Celebrate cultures and cooking, historic meals and markets, and ingredients that have been discovered and shaped over thousands of years in the new exhibition Our Global Kitchen: Food, Nature, Culture, which opens on November 17.